08-07-1997: letter to nps from u.s. department of justice regarding copies of the executed decrees by the water judge dated 7/31/9

U.S. Department of Justice

Environment and Natural Resources Division

90-1-2-1425

Lorrin C. Dyer, Legal Secretary
U.S. Department of Justice
Environment and Natural Resources Division
General Litigation Section
999 18th Street, Suite 945
Denver, Colorado 80202

Telephone: (303) 312-7313
Facsimile: (303) 312-7331
lorrin.dyer@usdoj.gov

August 7, 1997

Peter Fahmy
Solicitor's Office
755 Parfet Street, Suite 151
Lakewood, Colorado 80215

Bill Hansen
National Park Service
1201 Oak Ridge
Fort Collins, Colorado 80525

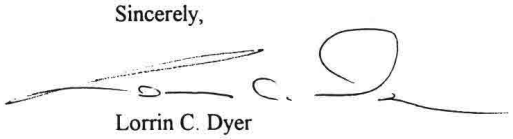
Re: Water Division No. 7, Case Nos.: W-1633-76 and W-1633-76A

Dear Sirs:

Enclosed please find the file stamped copies of the executed Decrees by the Water Judge dated 7/31/97 regarding the above matter for your information and files.

Please note that the water clerk served copies of both executed Decrees to the appropriate parties.

Sincerely,



Lorrin C. Dyer
Secretary to Lynn Johnson

Enclosures

FILE

U.S. DEPT. OF JUSTICE
ENV. & NAT. RESOURCES
DENVER, CO
97 AUG -6 AM 10:06



DISTRICT COURT, WATER DIVISION NO. 7, STATE OF COLORADO

CASE NO. W-1633-76

FINDINGS OF FACT, CONCLUSIONS OF LAW AND DECREE

CONCERNING THE APPLICATION FOR WATER RIGHTS OF THE UNITED STATES OF AMERICA IN THE COUNTY OF MONTEZUMA (Reserved Water Rights for Mesa Verde National Park)

THIS MATTER comes before the Court for entry of Findings of Fact, Conclusions of Law and Decree on the application for reserved water rights at Mesa Verde National Park. The Court, having examined the records and files herein, having taken testimony where such testimony was necessary, and being now fully and sufficiently advised in the premises, hereby makes the following Findings of Fact, Conclusions of Law and Decree:

FINDINGS OF FACT

1. Pursuant to the McCarran Amendment, 43 U.S.C. §666, the United States of America filed an application for water rights at Mesa Verde National Monument, Hovenweep National Monument and Yucca House National Monument on December 30, 1976, which was assigned Case No. W-1633-76. An amended application for reserved water rights for Mesa Verde National Monument was filed on February 7, 1977. Thereafter, on March 17, 1977, the United States filed a pleading to correct its Application to indicate that Mesa Verde was a national park rather than a national monument.

2. The following Objectors timely filed Statements of Opposition in Case No. W-1633-76:

City and County of Denver
State of Colorado, Department of Natural Resources
Dolores Water Conservancy District
Southwestern Water Conservation District
Florida Water Conservancy District
La Plata Water Conservancy District
Mancos Water Conservancy District
Summit Reservoir and Irrigation Co.
Colorado River Water Conservation District
Town of Rico
City of Cortez
Town of Dolores
Town of Dove Creek
Montezuma Valley Irrigation Co.
Dolores Flood Control District

All of the Objectors, with the exception of the Town of Rico and the Dolores Flood Control District, have stipulated to the

entry of this Findings of Fact, Conclusions of Law and Decree ("Decree") or withdrawn their Statement of Opposition. As stated in the Affidavit filed concurrently with this Decree, the United States was unable to locate present counsel for the Dolores Flood Control District or confirm that it is still in existence.

3. The name, address and telephone number of the applicant:

United States of America
% U.S. Department of Justice
999 18th Street, Suite 945
Denver, CO 80202
(303) 312-7300

4. In its application, the United States:

a. claims reserved rights in Mesa Verde National Park to "all water in, on, under, adjacent or otherwise appurtenant to the land . . ., tributary or non-tributary . . ." described by an Act creating Mesa Verde National Park approved June 29, 1906 (34 Stat. 616), and the Acts of June 30, 1913 (38 Stat. 82); February 26, 1931 (46 Stat. 1422); April 25, 1928 (45 Stat. 458); December 23, 1963 (77 Stat. 473); and Presidential Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511), with priority dates as of the dates these lands were withdrawn from the public domain.

b. claims reserved water rights for the following uses:

for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric and primitive man within said park; recreation, domestic uses; municipal and administrative site uses; irrigation; stock grazing and watering; the development, conservation and management of resident and migratory wildlife and wildlife resources, the terms wildlife and wildlife resources to include birds and mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent; fire fighting and protection, forest growth, management, improvement and protection; commercial drinking and sanitary uses; road watering, watershed protection and management; wilderness preservation, flood, soil erosion control; preservation of educational, historic, scientific, scenic, aesthetic and other public values and habitat protection and management.

c. claims reserved water rights from the following sources and in the following amounts: that quantity "of surface, ground and underground waters, both tributary and non-tributary, which are situated in this Water Division and are located in, on, under, adjacent, or otherwise appurtenant to" the reservation, and which are, or will become, necessary to fulfill the present and future purposes for which the reservation was created.

5. Mesa Verde National Park was established by an Act of Congress creating Mesa Verde National Park on June 29, 1906 (34 Stat. 616) "for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric and primitive man within said park."

6. On June 30, 1913, (38 Stat. 82) an Act making appropriations for the current and contingent expenses of the Bureau of Indian Affairs, for fulfilling treaty stipulations with various Indian tribes, and for other purposes, for the fiscal year ending June 30, 1914, extended the boundaries of the Mesa Verde National Park adding additional parcels of land in which the Mancos River flows and in which springs originate.

7. On April 25, 1928, (45 Stat. 458) an Act to accept the cession by the State of Colorado of exclusive jurisdiction over the land embraced within the Mesa Verde National Park, and for other purposes required the Secretary of the Interior to

> make and publish such general rules and regulations as he may deem necessary and proper for the management and care of the park and for the protection of the property therein, especially for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man, all timber, natural curiosities, or wonderful objects within said park, and for the protection of the animals and birds in the park from capture or destruction, and to prevent their being frightened or driven from the park; and he shall make rules and regulations governing the taking of fish from the streams or lakes in the park.

8. On May 27, 1932 Presidential Proclamation No. 1998 (47 Stat. 2511) reserved certain additional lands described therein for scenic and road preservation purposes for inclusion within Mesa Verde National Park.

9. On December 23, 1963 an Act to revise the boundaries of Mesa Verde National Park, Colorado and for other purposes, (77 Stat. 473) further amended the boundaries of Mesa Verde National Park and required the National Park Service to administer lands "in

accordance with the Act entitled 'An Act to establish a National Park Service, and for other purposes,'" approved August 25, 1916 (39 Stat. 535), as amended and supplemented (16 U.S.C. § 1, et seq.).

10. The boundaries of the respective reservations are shown in Exhibit A, the map attached hereto and made a part hereof.

11. The Mancos River, an identifiable and discrete water course within Mesa Verde National Park, enters the northeast part of Mesa Verde National Park in the NW1/4NE1/4 of Section 26, T. 35 N., R. 14 W. of the New Mexico P.M., and traverses lands reserved by the Act of June 30, 1913 (38 Stat. 82) in the E1/2 of Section 26, and the E1/2 of Section 35, T. 35 N., R. 14 W. and the W1/2 of Section 1 and the N1/2 of Section 12 T. 34 N., R. 14 W. of the New Mexico P.M., and exits the park in the NW1/4SE1/4, Section 12, T. 34 N., R. 14 W. of the New Mexico P.M.

12. Maintenance of instream flows in the Mancos River in Mesa Verde National Park is necessary to meet the primary purposes of the Park as described by the Acts of June 29, 1906 (34 Stat. 616); April 25, 1928 (45 Stat. 458); December 23, 1963 (77 Stat. 473); and Presidential Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511).

13. There are numerous springs located on the lands reserved from the public domain in Mesa Verde National Park. These springs served as sources of water for the "prehistoric and primitive" inhabitants of the lands now comprising Mesa Verde National Park. The flow of these springs irrigates natural vegetation of the kind which was used by the "prehistoric and primitive" inhabitants as sources of food and fiber. The continued flow of these springs is necessary for interpretation of the life of the "prehistoric and primitive" inhabitants of Mesa Verde National Park. Also, the continued flow of these springs is necessary for preservation of "all timber, natural curiosities, or wonderful objects within said park, and for the protection of the animals and birds in the park."

14. Exhibit B (IN SITU USES FOR SPRINGS AT MESA VERDE NATIONAL PARK), which is attached hereto and made a part hereof, lists the springs located on the lands reserved from the public domain in Mesa Verde National Park by number, name, legal location, and amount of water necessary for the purposes described by the Acts of June 29, 1906 (34 Stat. 616); April 25, 1928 (45 Stat. 458); December 23, 1963 (77 Stat. 473); and Presidential Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511). The springs identified in Exhibit B will be utilized for in situ uses that include evapotranspiration by natural vegetation, used by birds and animals, and the interpretation of the life of the "prehistoric and primitive" inhabitants.

15. In addition to the foregoing requirements for water

within Mesa Verde National Park, the National Park Service needs a reserved water right of 70 acre-feet per annum to help satisfy future requirements for the operation, administration, and protection of Mesa Verde National Park, including but not limited to such uses as, excavation, restoration and preservation of ruins and structures; construction of visitor facilities; staff and visitor domestic uses; and fire suppression. This water is necessary to fulfill the primary purposes of Mesa Verde National Park as described by the Acts of June 29, 1906 (34 Stat. 616); April 25, 1928 (45 Stat. 458); and December 23, 1963 (77 Stat. 473); and Presidential Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511).

16. The United States has an appropriative water right for 120 acre-feet per annum and has an additional appropriative right for 100 acre-feet per annum pursuant to water rights decreed on March 22, 1963. These rights have a priority date of October 31, 1936, and consist of either storage or direct-flow, or both, from the West Mancos River with compensatory exchange releases from Jackson Gulch Reservoir.

CONCLUSIONS OF LAW

17. All notices required by law for filing and publication of the application in the Resume of Water Division No. 7 have been fulfilled and the court has jurisdiction over the subject matter and all parties whether or not they appeared. The time for filing Statements of Opposition has expired.

18. The primary purposes of Mesa Verde National Park are as stated in the Acts of June 29, 1906 (34 Stat. 616); April 25, 1928 (45 Stat. 458); and December 23, 1963 (77 Stat. 473); and Presidential Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511) to wit: "the protection . . ." and "the preservation from injury or spoliation of the ruins and other works and relics of prehistoric and primitive man, all timber, natural curiosities, or wonderful objects . . ., and for the protection of the animals, birds and fish in the park."

19. Under the federal reserved rights doctrine, the United States has reserved instream flow rights in the Mancos River within the boundaries of Mesa Verde National Park to fulfill the primary purposes of Mesa Verde National Park. Arizona v. California, 373 U.S. 546, 600 (1963); Cappaert v. United States, 426 U.S. 128, 138 (1976); United States v. Denver, 656 P.2d 1, 20 (Colo. 1982).

20. Under the federal reserved rights doctrine, the United States also has the following reserved water rights with the following priority dates to meet the present and future needs for water necessary to fulfill the primary purposes of Mesa Verde National Park. Arizona v. California, 373 U.S. 546, 600 (1963); Cappaert v. United States, 426 U.S. 128, 138 (1976); United States

v. Denver, 656 P.2d 1, 34-35 (Colo. 1982).

a. The United States has reserved water rights for the springs described in Finding of Fact Nos. 13 and 14 above and Exhibit B. The priority dates are the dates of the reservation of the land containing the springs.

b. The United States has reserved water rights for 70 acre-feet of water per annum to help satisfy future requirements for the operation, administration, and protection of Mesa Verde National Park, including but not limited to such uses as, excavation, restoration and preservation of ruins and structures; construction of visitor facilities; staff and visitor domestic uses; and fire suppression. The priority dates are the dates the lands were withdrawn from the public domain.

21. The United States has demonstrated its entitlement to this decree as a matter of law.

DECREE

IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

22. The Findings of Fact and Conclusions of Law contained herein are incorporated by reference and made a part of this Decree.

23. The United States is decreed reserved rights for the springs identified in Exhibit B, which is incorporated by reference and made a part of this decree, for use in situ, in the amounts stated in Exhibit B. This water is necessary to fulfill the primary purposes of Mesa Verde National Park as described by the Acts of June 29, 1906 (34 Stat. 616); April 25, 1928 (45 Stat. 458); December 23, 1963 (77 Stat. 473); and Presidential Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511). The priority dates are the respective reservation dates identified in Exhibit B.

24. For the flows and time periods listed below, the United States is decreed reserved rights to instream flows in the Mancos River, flowing within Mesa Verde National Park, beginning at the point where the Mancos River enters reserved lands in the SE1/4 quarter of Section 26, T. 35 N., R. 14 W. of the New Mexico Principal Meridian, with a priority date of January 1, 1995. This water is necessary to fulfill the primary purposes of Mesa Verde National Park as described by the Acts of June 29, 1906 (34 Stat. 616); April 25, 1928 (45 Stat. 458); December 23, 1963 (77 Stat. 473); and Presidential Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511).

a: August 1 through January 31 - 5 c.f.s.
b: February 1 through February 28 - 10 c.f.s.

c: March 1 through March 31 - 15 c.f.s.
d: April 1 through April 30 - 30 c.f.s.
e: May 1 through May 31 - 45 c.f.s.
f: June 1 through June 30 - 12 c.f.s.
g: July 1 through July 31 - 6 c.f.s.

25. The United States is decreed reserved water rights in the amount of 70 acre-feet of water per annum to help satisfy future requirements for the operation, administration, and protection of Mesa Verde National Park, including but not limited to such uses as, excavation, restoration and preservation of ruins and structures; construction of visitor facilities; staff and visitor domestic uses; and fire suppression. This water is necessary to fulfill the primary purposes of Mesa Verde National Park described by the Acts of June 29, 1906 (34 Stat. 616); April 25, 1928 (45 Stat. 458); and December 23, 1963 (77 Stat. 473); and Presidential Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511). Except as provided in paragraph 26, below, this water may be developed from "any water in, on, under, adjacent or otherwise appurtenant to" Mesa Verde National Park. The priority dates for these 70 acre-feet are the dates of reservation associated with the location of the diversion. The priority date for the water which may be diverted from the Mancos River pursuant to paragraph 26 below is June 20, 1913.

26. The National Park Service will satisfy its need for water for future operation, administration, and protection of Mesa Verde National Park in the following order: 1) First, from the existing 120 acre-feet per annum appropriative water right from the West Mancos River described in paragraph 16 above; 2) Second, from the additional 100 acre-feet per annum appropriative right from the West Mancos River described in paragraph 16 above; and 3) Third, to the extent such appropriative rights are not adequate to accommodate increased utilization and visitation at Mesa Verde National Park, then from the reserved water rights of the United States for 70 acre-feet of water per annum described in paragraph 25 above, provided that at no time will the withdrawal of water from the Mancos River pursuant to this reserved right exceed 10 acre-feet per annum, with only five acre feet diverted during the irrigation season: June through October.

27. This judgment and decree constitutes the final adjudication of all claims of the United States for reserved rights for Mesa Verde National Park pursuant to the Acts of June 29, 1906 (34 Stat. 616); June 30, 1913 (38 Stat. 82); April 25, 1928 (45 Stat. 458); December 23, 1963 (77 Stat. 473); and Proclamation No. 1998 of May 27, 1932 (47 Stat. 2511) and any other applicable federal acts enacted prior to December 30, 1976.

28. Prior to diversion and use of any surface water on land reserved from the public domain in Mesa Verde National Park, the National Park Service shall provide the State Engineer the same

information that would be required in an application for a surface water right. Whereupon, the State Engineer shall administer the use in accordance with this Decree.

29. Prior to constructing any well, the National Park Service shall provide the State Engineer the same information required of an applicant for a permit to construct a well. Upon receipt of the information required of an applicant for a permit to construct a well, the State Engineer shall issue a permit and administer the use in accordance with the terms of this decree.

30. Subject to the availability of funds, the United States shall install and maintain such water measurement devices, recording devices, content gauges and inlet and outlet measurement and recording devices, as the case may be, as are deemed essential by the Office of the State Engineer; provided, however, that such devices shall not be located so as to interfere with the purposes of Mesa Verde National Park; and further provided that the United States shall not be entitled to curtailment of other water rights for the benefit of any of the water rights decreed herein unless the United States has installed and is maintaining the measurement devices required pursuant to this paragraph.

31. Because this Decree was entered pursuant to agreement of the parties and the issues decided herein have not been litigated between the parties, the parties shall not be collaterally estopped from asserting any factual and/or legal issues in any other cases not involving these water rights. This Decree shall not be used, considered, or cited as precedent in any other case except and only to the extent that the rights decreed herein are at issue.

32. The water clerk shall serve a copy of this Decree upon the parties, the Division Engineer, Water Division No. 7, and the State Engineer.

DATED this 31st day of July, 1997.

BY THE COURT:

Timothy A. Patalan

TIMOTHY A. PATALAN, Water Judge
Water Division No. 7
State of Colorado

cc: K. Beegles (3)
H. Simpson
W. Weiss
J. Sheftel
L. W. McDaniel
D. Hallford
P. Wells
C. Fossum
K. McCabe

EXHIBIT B

IN SITU USES FOR SPRINGS AT MESA VERDE NATIONAL PARK

The following springs are located north of the Ute Line on land reserved by the Act of June 29, 1906:

Spr. #	Source Name	Legal Description	Amount (gpm)
3	Rock Springs #1	SWSES7T34NR15W *	0.014
26	West Long Canyon Spring	NESES7T34NR15W *	0.045
28	Upper Soda Can. Spring #4	NWNWS3T34NR15W *	5.0
29	Upper Soda Canyon Spring #3	SWSWS34T35NR15W	0.022
30	East Navajo Canyon Spring #2	NENWS4T34NR15W *	0.022
31	Battleship Rock Spring #1	SESWS34T35NR15W	0.022
35	Long Canyon Spring #1	NWNES31T35NR15W	0.022
36	West Navajo Canyon Spring	NWSES32T35NR15W	0.022
38	School Section Canyon Spring #3	SESES25T35NR15W	0.022
39	Prater Canyon Spring #3	SESWS32T35NR14W	0.022
40	Morefield Can. Spring #4	NWNWS4T34NR14W *	0.25
41	Prater Canyon Spring #2	NWSWS29T35NR14W	0.022
42	Morefield Canyon Spring #3	SWNWS33T35NR14W	0.022
43	Moccasin Canyon Spring #1	NWSWS19T35NR14W	0.022

NOTE: Legal descriptions are defined as the quarter section of the quarter section of a given section, township, and range (e.g., SWSW3T36NR30W). All townships are north of the Base Line, except as noted below, which extends across New Mexico (between 34 and 35 degrees latitude), and all ranges are west of the New Mexico Principal Meridian. Unsurveyed or protracted sections are taken from Bureau of Land Management Protraction Diagram #31, October 28, 1964 and are identified with an asterisk (*) following the legal description.

Spr. #	Source Name	Legal Description	Amount (gpm)
44	West Prater Canyon Spring	SWNES19T35NR14W	0.022
45	Waters Can. Spring #1	NENES28T35NR14W	0.5
46	Prater Canyon Tunnel Spring	NWSWS17T35NR14W	0.022
56	Frink Trail Boulder Spring	NWNWS23T35NR15W	5.0
62	Moccasin Overlook Spring	NENES24T35NR15W	0.022
70	Morefield Canyon Spring #1	SWSES20T35NR14W	12.0
71	Morefield Point Spring #2	SWNWS21T35NR14W	0.355
74	Moccasin Canyon Spring #2	SWSWS19T35NR14W	0.022
77	Keesee Field Spring	SESWS4T35NR14W	5.0
81	East Navajo Canyon Spring #1	SWNWS27T35NR15W	0.022
87	Line Change Seep	NENWS19T35NR14W	0.022
90	School Sec. Can. Spring #2	NESWS24T35NR15W	0.75
112	W Little Soda Can. Spring #3	NWNES34T35NR15W	0.022
122	Prater Canyon Boxelder Spring	NWNWS20T35NR14W	0.022
134	W Little Soda Can. Spring #1	SWSES22T15NR35W	1.0
135	Frink Trail Slum Gulliun Spring	NWSWS23T35NR15W	0.022
146	W Little Soda Can. Spring #2	NWNES27T35NR15W	0.125
153	Vulture Cliff Spring	SESWS9T35NR14W	5.0
154	Mancos Canyon Spring 1906	SENES27T35NR14W	0.022
158	School Section Canyon Spring #1	SENWS24T35NR15W	0.022

Spr. #	Source Name	Legal Description	Amount (gpm)
165	Morefield Ridge Spring	SWNWS33T35NR14W	0.022
176	East Rim Trail Spring	SWSWS16T35NR14W	0.33
177	Morefield Point Spring #1	SWNWS21T35NR14W	0.022
182	Upper Soda Canyon Spring #2	NWSES26T35NR15W	0.022
183	Morefield Canyon Spring #2	NESES29T35NR14W	0.125
192	Mile 2 Wetherill Road Spring	SENES21T35NR15W	0.5
195	Prater Ridge Spring #1	NWSES7T35NR14W	5.0
196	Prater Ridge Spring #2	NWSES7T35NR14W	5.0
197	Prater Ridge Spring #3	SWSES7T35NR14W	0.355
198	Prater Canyon Spring #1	NWSES18T35NR14W	5.0
199	Prater Can. Side Canyon Spring	NWNWS29T35NR14W	0.125
204	Knife Edge Trail Spring	SWSWS7T35NR14W	0.125
213	Mancos Canyon Gully #1	NWNWS26T35NR14W	1.5
214	Mancos Canyon Gully #2	SENWS26T35NR14W	2.0
215	Mancos Canyon Gully #5	NENWS35T35NR14W	2.0
216	Mancos Canyon Gully #6	NENWS35T35NR14W	2.0
217	Mancos Canyon Gully #7	SESWS35T35NR14W	1.5
223	Waters Canyon Spring #2	SESES28T35NR14W	1.0
224	Whites Canyon Spring	NESWS27T35NR14W	1.0
226	Upper Soda Canyon Spring #1	NWSES23T35NR15W	1.0

Spr. #	Source Name	Legal Description	Amount (gpm)
259	Culvert One	NWNES7T35NR14W	5.0
262	Prater Canyon-Turkey Spring	SWSWS29T35NR14W	2.5

The following springs are located south of the Ute Line on land reserved by the Act of June 30, 1913:

Spr. #	Source Name	Legal Description	Amount (gpm)
1	Spruce Tree House Spring	NWNWS21T34NR15W *	0.014
2	Soda Canyon Cliff Spring	SESES27T34NR15W *	0.014
4	Spring House Spring	SWNWS18T34NR15W *	0.014
5	Cliff Palace Spring	SENES28T34NR15W *	0.014
6	Cliff Canyon Spring #1	NWSES21T34NR15W *	0.014
7	Wickiup Canyon Spring #3	NWSWS20T34NR15W *	0.014
8	Square Tower House Spring	SENES29T34NR15W *	0.014
9	Fewkes Canyon Spring #2	SWNES28T34NR15W *	0.014
10	Fewkes Canyon Spring #1	SWNES28T34NR15W *	0.014
11	Fewkes Canyon Spring #4	SENES28T34NR15W *	0.014
12	Cliff Canyon Spring #3	NENES28T34NR15W *	0.014
13	Sunset House Spring	NWSWS27T34NR15W *	0.014
14	Navajo Canyon Reed Springs	NESWS29T34NR15W *	0.045
15	Bobcat Canyon Spring #1	NWNWS19T34NR15W *	0.014

Spr. #	Source Name	Legal Description	Amount (gpm)
16	Long Canyon Spring #3	NESWS18T34NR15W *	0.014
17	Rock Can. Kodak House Spring	NESES24T34NR16W	0.125
18	Rock Can. Long House Spring	SWSES13T34NR16W	0.003
19	Wickiup Can. Spring #2	SESWS7T34NR15W *	5.0
20	Navajo Can. Spring #1	NENES7T34NR15W *	5.0
21	Wickiup Canyon Spring #1	NWNWS7T34NR15W *	0.045
22	Rock Can. Spring #2	NESES25T34NR16W	5.0
23	Lower Soda Canyon Spring #3	NESES27T34NR15W *	0.014
24	Rock Canyon Spring #1	NESWS13T34NR16W	0.045
25	Rock Canyon Jug House Spring	SWNWS13T34NR16W	0.045
47	Balcony House Spring #1	NESWS27T34NR15W *	0.014
48	Balcony House Spring #2	NESWS27T34NR15W *	0.014
53	Lower Soda Canyon Spring #2	SENWS27T34NR15W *	0.014
54	Lower Soda Canyon Spring #1	SWSES22T34NR15W *	0.045
55	Horse Canyon Spring	SWSWS25T34NR16W	0.355
61	Cliff Canyon Spring #2	NENES28T34NR15W *	0.014
63	Navajo Canyon Spring #3	NESWS29T34NR15W *	0.045
64	Navajo Canyon Spring #4	NESWS29T34NR15W *	0.045
66	Nordenskiold Site 12 Spring	NENES25T34NR16W	0.014
67	Fuller Brush House Spring	NESES30T34NR15W *	0.014

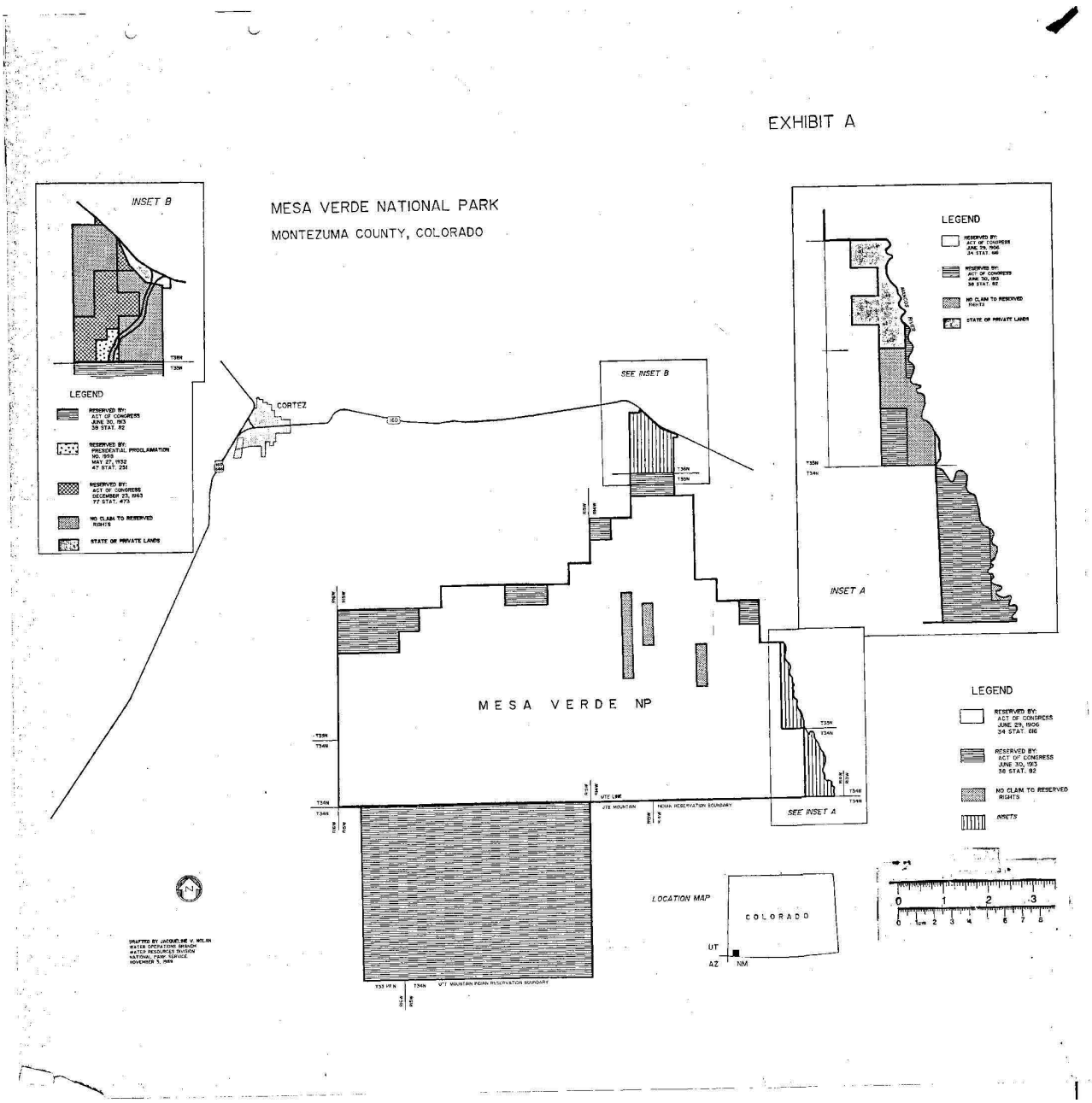
Spr. #	Source Name	Legal Description	Amount (gpm)
68	Rock Canyon Spring #3	SWSWS30T34NR15W *	0.045
75	Navajo Canyon Spring #5	NWSES29T34NR15W *	0.045
80	Middle Soda Canyon Spring #1	SWNES16T34NR15W *	5.0
86	Echo Cliff Dike Spring	SESWS29T34NR15W *	0.072
95	Echo Cliff Slump Springs	SWNES29T34NR15W *	5.0
98	Rock Springs #2	SWNWS12T34NR16W	3.0
99	Rock Springs #3	SWNWS12T34NR16W	1.0
107	Spruce Canyon Spring	NESES20T34NR15W *	0.045
109	Spruce Tree Canyon Spring	SWNWS21T34NR15W *	0.045
115	Chapin Mesa Spring	SWSWS9T34NR15W *	0.014
118	Long Canyon Spring #2	NENES13T34NR16W	0.355
119	Fewkes Canyon Spring #3	SENES28T34NR15W *	0.014
128	Spruce Canyon Spring #2	SESES8T34NR15W *	0.67
131	Spruce Canyon Spring #1	SWNES8T34NR15W *	0.014
136	Fewkes Canyon Spring #5	NESES28T34NR15W *	0.013
137	Lower Soda Canyon Spring #4	SESES27T34NR15W *	5.0
143	Bobcat Canyon Spring #2	NESWS19T34NR15W *	0.045
144	Bobcat Canyon Spring #3	SESWS19T34NR15W *	0.045
147	Lower Long Canyon Spring #2	SESES30T34NR15W *	0.355
148	Lower Long Canyon Spring #1	NESES30T34NR15W *	0.045
149	Soda Point Overlook Spring #2	SWNES27T34NR15W *	0.045

Spr. #	Source Name	Legal Description	Amount (gpm)
160	Lower Long Canyon Spring #3	SWSES30T34NR15W *	0.045
161	Wickiup Point Spring	SENWS20T34NR15W *	1.42
169	Spruce Tree Point Spring	NWNWS21T34NR15W *	0.29
174	Soda Point Overlook Spring #1	SWNES27T34NR15W *	0.014
188	Navajo Canyon Spring #2	NENWS20T34NR15W *	0.045
208	Upper Wickiup Point Spring	SENWS20T34NR15W *	0.014
218	Under Limy Draw Pouroff Spring	NESWS30T34NR15W *	0.014
233	Hemenway House Spring	SWSWS26T34NR15W	0.014

The following spring is located north of the Ute Line on land reserved by the Act of December 23, 1963:

Spr. #	Source Name	Legal Description	Amount (gpm)
73	Park Entrance Spring	SWSES29T36NR14W	5.0

00-00-0000: location map of meve



CENTRAL FILES

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MAR 18 1977
RESOURCES
ENGINEER

IN THE DISTRICT COURT IN AND FOR

WATER DIVISION NO. 7

STATE OF COLORADO

Case No. W-1633-76

IN THE MATTER OF THE APPLICATION FOR WATER RIGHTS OF THE UNITED STATES OF AMERICA IN WATER DIVISION NO. 7, SAN JUAN RIVER DRAINAGE, STATE OF COLORADO.	APPLICATION OF THE UNITED STATES OF AMERICA FOR RESERVED WATER RIGHTS (NATIONAL PARK SERVICE) MESA VERDE NATIONAL PARK

COMES NOW the United States of America, Applicant herein, and requests leave of the Court to correct its Application as follows:

Paragraph 2, Line 5, should read:

"Reserved rights in Mesa Verde National Park"

Paragraph 2(b), Line 3, should read:

". . . the National Park Service lands for National Park purposes with . . ."

Paragraph 2(b), Line 5, should read:

". . . public domain for National Park purposes as shown in Exhibit 1 . . ."

Respectfully submitted,

JAMES L. TREECE
United States Attorney

By _____
HANK MESHOREK (Reg. No. 6977)
Trial Attorney
Department of Justice
Land and Natural Resources Division
Post Office Box 1656
Denver, Colorado 80201

Telephone: 837-4961

CENTRAL FILES

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COLO.

IN THE DISTRICT COURT IN AND FOR

WATER DIVISION NO. 7

STATE OF COLORADO

Case No. W-1633-76

IN THE MATTER OF THE APPLICATION FOR WATER RIGHTS OF THE UNITED STATES OF AMERICA IN WATER DIVISION NO. 7, SAN JUAN RIVER DRAINAGE, STATE OF COLORADO.	AMENDED APPLICATION OF THE UNITED STATES OF AMERICA FOR RESERVED WATER RIGHTS (NATIONAL PARK SERVICE) MESA VERDE NATIONAL MONUMENT

1. Name of Applicant: United States of America

Address of Applicant: c/o Hank Meshorer
Trial Attorney
Department of Justice
Land and Natural Resources Division
Post Office Box 1656
Denver, Colorado 80201

2. The United States of America seeks confirmation of its reserved rights to the use of water on lands owned by it within Water Division No. 7, San Juan River drainage, which rights are hereinafter described:

Reserved rights in Mesa Verde National Monument

(a) Source of water:

(1) All water in, on, under, adjacent or otherwise appurtenant to the land described in the attached Exhibits 1 thru 6, tributary or non-tributary, which Exhibits are attached hereto and by this reference incorporated herein as if set forth verbatim.

(b) Dates of Priority: The United States claims a right to the use of water in, on, under, adjacent or otherwise appurtenant to the National Park Service lands for National Monument purposes with priority dates as of the dates these lands were withdrawn from the public domain for National Monument purposes as shown in Exhibits 1 thru 6.

(c) Amount of uses claimed: The United States of America hereby claims certain quantities of surface, ground and underground waters, both tributary and non-tributary, which waters are situated in this Water Division and are located in, on, under, adjacent or otherwise appurtenant to this reservation. The United States claims direct water rights, storage water rights, transportation rights and well rights to such quantities of water, unappropriated as of the reservation dates, as are or will become reasonably necessary to fulfill the present and future purposes for which said reservation was created, or said lands and waters were withdrawn from the Public Domain, such purposes including, but not by way of limitation: preservation from injury or spoilation of the ruins and other works and relics of prehistoric and primative man within said monument; recreation, domestic uses; municipal and administrative site uses; irrigation; stock grazing and watering; the development, conservation and management of resident and migratory wildlife and wildlife resources, the terms wildlife and wildlife resources to include birds and mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent; fire fighting and protection, forest growth, management, improvement and protection; commercial drinking and sanitary uses; road watering, water shed protection and management; wilderness preservation, flood, soil erosion control; preservation of educational, historic, scientific, scenic, aesthetic and other public values and habitat protection and management.

3. The United States claims priority dates earlier than the effective dates of priorities awarded by previous decrees within this Water Division, and seeks dates of priority which will antedate the adjudication dates of earlier decrees and adjudications insofar as they, in conjunction with applicable statutes, appear or purport to preclude this Court from awarding to the United States its water rights bearing their true priority dates.

4. The filing fees which accompany this application are paid under protest. The United States hereby claims reimbursement thereof on the ground that filing fees constitute "costs" within the meaning of 43 U.S.C.A., Section 666(a), and as such are not properly taxed against the government in water adjudication proceedings.

Respectfully submitted,

JAMES L. TREECE
United States Attorney

By _____
HANK MESHORER (Reg. No. 6977)
Trial Attorney, Department of Justice
Land and Natural Resources Division
Post Office Box 1656
Denver, Colorado 80201

Telephone: 837-4961

STATE OF COLORADO)
) ss:
CITY AND COUNTY OF DENVER)

HANK MESHORER, being first duly sworn upon oath, deposes and says that he has read the foregoing Application, knows the contents thereof and that the same are true.

_____
HANK MESHORER

Subscribed and sworn to before me this 2nd day of February, 1977.

My commission expires: July 16, 1980

_____
Notary Public

IT IS ORDERED that this application is referred to the Water Referee for his investigation and ruling.

DATED February 7, 1977.

_____
WATER JUDGE

07-26-1989: handwritten note regarding microfiche with the water right application: case w-1633-76

CASE NO. W-1633-76 Filed Feb. 9, 1977

Included on microfiche with the water right application filed by the United States on Feb. 9, 1977 and identified as Case No. W-1633-76 were copies of Exhibits 1-5 as described under the initial filing made on Jan. 6, 1977.

Mary Hermes, Research Associate 7/26/89

CENTRAL FILES

RECEIVED
JAN -6 1977
STATE ENGINEER
COLO.

IN THE DISTRICT COURT IN AND FOR

WATER DIVISION NO. 7

STATE OF COLORADO

Case No. W-1633-76

IN THE MATTER OF THE APPLICATION FOR WATER RIGHTS OF THE UNITED STATES OF AMERICA IN WATER DIVISION NO. 7, SAN JUAN RIVER DRAINAGE, STATE OF COLORADO	APPLICATION OF THE UNITED STATES OF AMERICA FOR RESERVED RIGHTS AND APPROPRIATIVE RIGHTS (NATIONAL PARK SERVICE)

1. Name of Applicant: United States of America

Address of Applicant: c/o Hank Meshorer
Trial Attorney
Department of Justice
Land and Natural Resources Div.
Post Office Box 1656
Denver, Colorado 80201

2. The United States of America seeks confirmation of its reserved rights to the use of water on lands owned by it within Water Division No. 7, San Juan River drainage, which rights are hereinafter described:

I. Water rights appurtenant to Mesa Verde National Monument:

(a) Reserved water rights as alleged in Paragraph 3.

II. Water rights appurtenant to Hovenweep National Monument:

(a) Reserved water rights as alleged in Paragraph 4.

III. Water rights appurtenant to Yucca House National Monument:

(a) Water rights based upon appropriation and application to beneficial use as alleged in Paragraph 5.

WATER RIGHTS APPURTENANT TO MESA VERDE NATIONAL MONUMENT:

3. Reserved Rights in Mesa Verde National Monument

(a) Source of water:

(1) All water in, on, under, adjacent or otherwise appurtenant to the land described in the attached Exhibits 1 thru 6, tributary or non-tributary, which Exhibits are attached hereto and by this reference incorporated herein as if set forth verbatim.

(b) Dates of Priority: The United States claims a right to the use of water in, on, under, adjacent or otherwise appurtenant to the National Park Service lands for National Monument purposes with priority dates as of the dates these lands were withdrawn from the public domain for National Monument purposes as shown in Exhibits 1 thru 6.

(c) Amount and uses claimed: The United States of America hereby claims certain quantities of surface, ground and underground waters, both tributary and non-tributary, which waters are situated in this Water Division and are located in, on, under, adjacent or otherwise appurtenant to this reservation. The United States claims direct water rights, storage water rights, transportation rights and well rights to such quantities of water, unappropriated as of the reservation dates, as are or will become reasonably necessary to fulfill the present and future purposes for which said reservation was created, or said lands and waters were withdrawn from the Public Domain, such purposes including, but not by way of limitation: preservation from injury or spoilation of the ruins and other works and relics of prehistoric and primative man within said monument; recreation, domestic uses; municipal and administrative site uses; irrigation; stock grazing and watering; the development, conservation and management of resident and migratory wildlife and wildlife resources, the terms wildlife and wildlife resources to include birds and mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent; fire fighting and protection, forest growth, management, improvement and protection; commercial drinking and sanitary uses; road watering, water shed protection and management; wilderness preservation, flood, soil erosion control; preservation of educational, historic, scientific, scenic, aesthetic and other public values and habitat protection and management.

WATER RIGHTS APPURTENANT TO HOVENWEEP NATIONAL MONUMENT

4. Reserved rights in Hovenweep National Monument

(a) Source of water:

(1) All water in, on, under, adjacent or otherwise appurtenant to the land described in the attached Exhibits A1 thru A5, tributary or non-tributary, which Exhibits are attached hereto and by this reference incorporated herein as if set forth verbatim.

(b) Dates of Priority: The United States claims a right to the use of water in, on, under, adjacent or otherwise appurtenant to the National Park Service lands for National Monument purposes with priority dates as of the dates these lands were withdrawn from the Public Domain for National Monument purposes as shown in Exhibits A1 thru A5.

(c) Amount and uses claimed: The United States of America hereby claims certain quantities of surface, ground and underground waters, tributary and non-tributary, which waters are situated within this Water Division and are located in, on, under, adjacent or otherwise appurtenant to this reservation. The United States claims direct water rights, storage water rights, transportation rights and well rights to such quantities of water, unappropriated as of the reservation dates, as are or will become reasonably necessary to fulfill the present and future purposes for which said reservation was created, or said lands or waters were withdrawn from the Public Domain, such purposes including, but not by way of limitation: preservation from injury or spoilation of the ruins and other works and relics of pre-historic or primative man within said monument; recreation, domestic uses; municipal and administrative site uses; irrigation; stock grazing and watering; the development, conservation and management of resident and migratory wildlife and wildlife resources, the terms wildlife and wildlife resources include birds and mammals, and

all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent; fire fighting and protection, forest growth, management, improvement and protection; commercial, drinking and sanitary uses; road watering, watershed protection and management; wilderness preservation, flood, soil erosion control; preservation of educational, historic, scientific, scenic, aesthetic and other public values and habitat protection and management.

WATER RIGHTS APPURTENANT TO YUCCA HOUSE NATIONAL MONUMENT

5. Water rights based upon appropriation and application to beneficial use in Yucca House National Monument

(a) See attached Application for Condtional Water Right marked Exhibit B.

6. The United States claims priority dates earlier than the effective dates of priorities awarded by previous decrees within this Water Division, and seeks dates of priority which will antedate the adjudication dates of earlier decrees and adjudications insofar as they, in conjunction with applicable statutes, appear or purport to preclude this Court from awarding to the United States its water rights bearing their true priority dates.

7. The filing fees which accompany this application are paid under protest. The United States hereby claims reimbursement thereof on the ground that filing fees constitute "costs" within the meaning of 43 U.S.C.A., Section 666(a), and as such are not properly taxed against the government in water adjudication proceedings.

Respectfully submitted,

JAMES L. TREECE
United States Attorney

By Hank Meshorer

HANK MESHORER (Reg. No. 6977)
Trial Attorney, Department of Justice
Land and Natural Resources Division
Post Office Box 1656
Denver, Colorado 80201

Telephone: 837-4961

STATE OF COLORADO)
CITY AND COUNTYOF DENVER) ss:

HANK MESHORER, being first duly sworn upon oath, deposes and says that he has read the foregoing Application, knows the contents thereof and that the same are true.

Hank Meshorer

Subscribed and sworn to before me this 16 day of December, 1976.

My commission expires: 9-26-78.

Mildred J. Davis
Notary Public

IT IS ORDERED that this applicatio
is referred to the Water Referee for
his investigation and ruling.
DATED December 30, 1976

WATER JUDGE

07-26-1989: handwritten note regarding copies of exhibits on microfiche with the water right application: case no. w-1633-76

1/2

CASE NO. W-1633-76 Filed Jan. 6, 1977

Copies of the following were included on microfiche with with the water right application filed by the United States on Jan. 6, 1977 and identified as Case No. W-1633-76:

Exhibit 1: Act creating MEVE approved June 29, 1906
Exhibit 2: Agreement w/ Navajo Springs Indian Agency for exchange of lands approved June 30, 1913
Exhibit 3: Act adding lands to MEVE approved February 26, 1931
Exhibit 4: Act adding lands to MEVE approved May 27, 1932
Exhibit 5: Act revising boundaries of MEVE approved December 23, 1963
Exhibit 1A: Act creating HOVE approved March 2, 1923 (includes map showing locations of the separate units)
Exhibit 2A: Act enlarging HOVE approved April 26, 1951
Exhibit 3A: Act enlarging HOVE approved November 20, 1952
Exhibit 4A: Act revising boundaries of HOVE approved April 6, 1956
Exhibit B: Copy of Water Form B-Application for Frannie Spring

2/2

Although Exhibits 6 and 5A are mentioned as being included with the water right application, these exhibits are not included on microfiche. According to NPS records, Exhibit 6 is a United States Department of Interior Geological Survey map of Mesa Verde National Park dated 1967. Exhibit 5A, according to NPS records is a United States Department of Interior Geological Survey map of Cajon Mesa, Utah-Colo. dated 1958. Both of these maps are at a scale of 1:24000.

Mary Hermes, Research Associate 7/26/89

SUMMARY OF MESA VERDE NATIONAL PARK ENABLING LEGISLATION

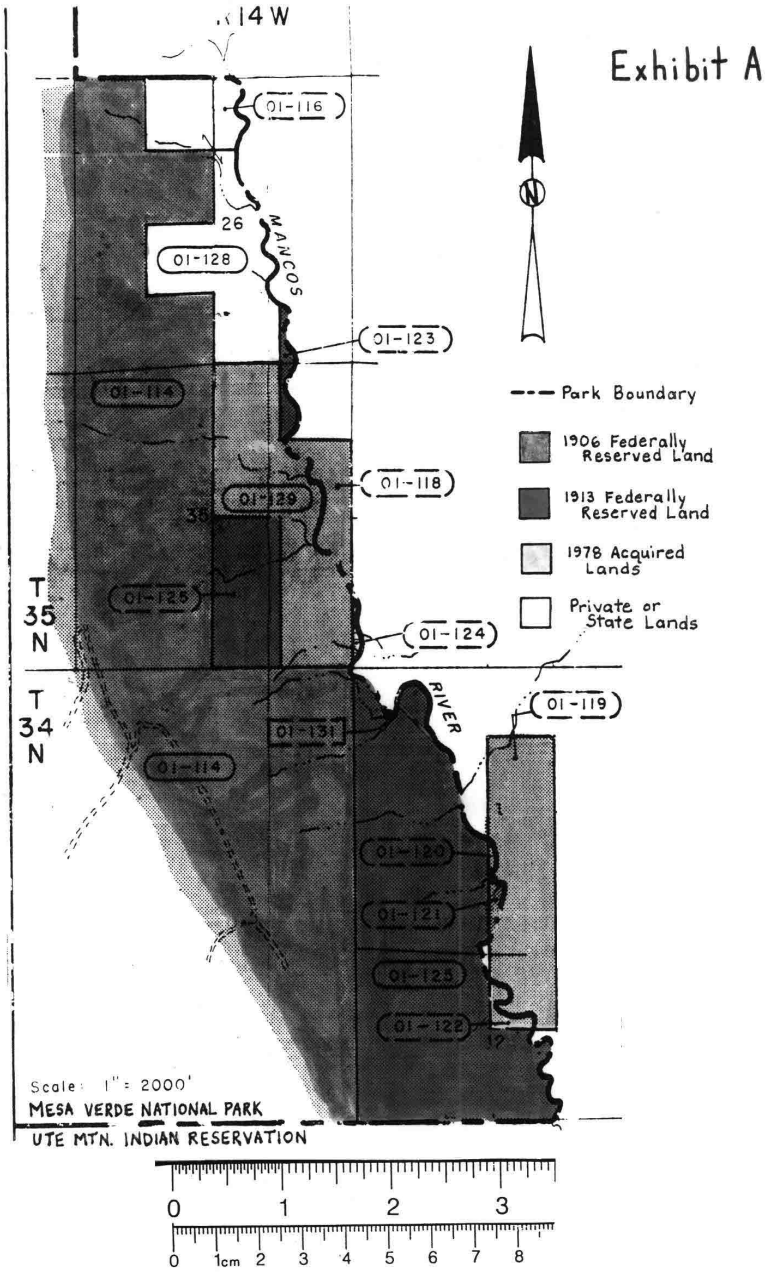
- On June 29, 1906, Mesa Verde National Park (MEVE) was established by an Act of Congress (34 Stat. 616) creating MEVE "for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric and primitive man within said park".

- On June 30, 1913, an Act (38 Stat. 82) extended MEVE boundaries and reserved additional parcels of land, shown in Exhibit A, in which the Mancos River flows and which springs originate.

- On April 25, 1928, an Act (45 Stat. 458) to accept the cession by the State of Colorado of exclusive jurisdiction over the land embraced within MEVE, and for other purposes, required the Secretary of the Interior to "...make and publish such general rules and regulations as he may deem necessary and proper for the management and care of the park and for the protection of the property therein, especially for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man, all timber, natural curiosities, or wonderful objects within said park, and for the protection of the animals and birds in the park from capture or destruction, and to prevent their being frightened or driven from the park; and he shall make rules and regulations governing the taking of fish from the streams or lakes in the park".

- On December 23, 1963, an Act (77 Stat. 473) further amended the boundaries of MEVE and required the National Park Service to administer lands "in accordance with the Act entitled An Act to establish a National Park Service, and for other purposes," approved August 25, 1916, (39 Stat. 535), as amended and supplemented (16 U.S.C. 1 et seq.).

00-00-0000: topographic map of mesa verde national park: exhibit a



9. Mesa Verde National Park

	Page
Act of June 29, 1906, creating the Mesa Verde National Park	125
Excerpt from deficiency act of June 25, 1910, authorizing the granting of leases and permits for use of land or development of resources in the Mesa Verde National Park	127
Excerpt from Bureau of Indian Affairs Appropriation Act of June 30, 1913, for fulfilling treaty stipulations with various Indian tribes, and extending boundaries of Mesa Verde National Park	127
Excerpt from sundry civil act of June 12, 1917, authorizing acceptance of patented lands and rights of way in Mesa Verde National Park that may be donated for park purposes	131
Act of Legislature of Colorado, approved May 2, 1927, ceding exclusive jurisdiction to the United States over Mesa Verde National Park	131
Act of April 25, 1928, accepting cession by Colorado of exclusive jurisdiction over lands embraced within Mesa Verde National Park	131
Excerpt from Interior Department Appropriation Act of May 14, 1930, making Mesa Verde National Park appropriations available for operation of Aileen Nusbaum Hospital	135
Excerpt from act of January 26, 1931, to provide for uniform administration of the national parks, forbidding leases for mineral prospecting, etc., in Mesa Verde National Park	135
Act of February 26, 1931, providing for addition of certain lands to Mesa Verde National Park	135

An Act Creating the Mesa Verde National Park, approved June 29, 1906 (34 Stat. 616)

Mesa Verde National Park, Colo. Establishment of. Description.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby reserved from settlement, entry, sale, or other disposal, and set apart as a public reservation, all those certain tracts, pieces, and parcels of land lying and being situate in the State of Colorado, and within the boundaries particularly described as follows: Beginning at the northwest corner of section twenty-seven, township thirty-five north, range sixteen west, New Mexico principal meridian; thence easterly along the section lines to the southwest corner of the southeast quarter of section twenty, township thirty-five north, range fifteen west; thence northerly to the northwest corner of the southeast quarter of said section; thence easterly to the northeast corner of the southeast quarter of said section; thence northerly to the northwest corner of section twenty-one, said township; thence easterly to the northeast corner of the northwest quarter of said section; thence northerly to the northwest corner of the southeast quarter of section sixteen, said township; thence easterly to the northeast corner of the southeast quarter of section fifteen, said township; thence southerly to the southeast corner of said section; thence easterly to the southwest corner of section thirteen, said

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township; thence northerly to the northwest corner of the southwest quarter of said section; thence easterly to the northeast corner of the southwest quarter of said section; thence northerly to the northwest corner of the northeast quarter of said section; thence easterly to the northeast corner of said section; thence northerly to the northwest corner of the southwest quarter of section seven, township thirty-five north, range fourteen west; thence easterly to the northeast corner of the southwest quarter of said section; thence northerly to the northwest corner of the southeast quarter of section six, said township; thence easterly to the northeast corner of the southwest quarter of section four, said township; thence southerly to the northwest corner of the southeast quarter of section nine, said township; thence easterly to the northeast corner of the southeast quarter of said section; thence southerly to the northwest corner of section twenty-two, said township; thence easterly to the northeast corner of the northwest quarter of said section; thence southerly to the northwest corner of the southeast quarter of said section; thence easterly to the northeast corner of the southeast quarter of said section; thence southerly to the northwest quarter of section twenty-six, said township; thence easterly to the northeast corner of the northwest quarter of said section; thence southerly to the southeast corner of the southwest quarter of section thirty-five, said township; thence easterly to the northeast corner of section two, township thirty-four north, range fourteen west; thence southerly along the section line between sections one and two and between sections eleven and twelve to the northern boundary of the southern Ute Indian Reservation; thence westerly along the northern boundary of said reservation to the center of section nine, township thirty-four north, range sixteen west; thence northerly along the quarter-section lines to the northwest corner of the southeast quarter of section twenty-eight, township thirty-five north, range sixteen west; thence easterly to the northeast corner of the southeast quarter of said section; thence northerly to the northwest corner of section twenty-seven, said township, the place of beginning. (U.S.C., title 16, sec. 111.)

Name.

SEC. 2. That said public park shall be known as the Mesa Verde National Park, and shall be under the exclusive control of the Secretary of the Interior, whose

Regulations.

duty it shall be to prescribe such rules and regulations and establish such service as he may deem necessary for the care and management of the same. Such regulations shall provide specifically for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man within said park (U.S.C., title 16, sec. 112): *Provided*, That all prehistoric ruins that are situated within five miles of the boundaries of said park, as herein described, on Indian lands and not

Proviso. Prehistoric ruins.

00-00-0000: insert from a book regarding mesa verde national park, page 3 - legislation relating to national parkscont

on lands alienated by patent from the ownership of the United States, are hereby placed under the custodianship of the Secretary of the Interior, and shall be administered by the same service that is established for the custodianship of the park.

SEC. 3. That the Secretary of the Interior be, and he is hereby, authorized to permit examinations, excavations, and other gathering of objects of interest within said park by any person or persons whom he may deem properly qualified to conduct such examinations, excavations, or gatherings, subject to such rules and regulations as he may prescribe: *Provided always*, That the examinations, excavations, and gatherings are undertaken only for the benefit of some reputable museum, university, college, or other recognized scientific or educational institution, with a view to increasing the knowledge of such objects and aiding the general advancement of archæological science. (U.S.C., title 16, sec. 113.)

Excavations, etc.

Proviso. Restriction.

SEC. 4. That any person or persons who may otherwise in any manner willfully remove, disturb, destroy, or molest any of the ruins, mounds, buildings, graves, relics, or other evidences of an ancient civilization or other property from said park shall be deemed guilty of a misdemeanor, and upon conviction before any court having jurisdiction of such offenses shall be fined not more than one thousand dollars or imprisoned not more than twelve months, or such person or persons may be fined and imprisoned, at the discretion of the judge, and shall be required to restore the property disturbed, if possible. (U.S.C., title 16, sec. 114.)

Penalty for destroying ruins, etc.

Excerpt from "An Act Making appropriations to supply deficiencies in appropriations for the fiscal year 1910, and for other purposes," approved June 25, 1910 (36 Stat. 796)

The Secretary of the Interior may, upon terms and conditions to be fixed by him, grant leases and permits for the use of the land or development of the resources thereof, in the Mesa Verde National Park, and the funds derived therefrom shall be covered into the Treasury of the United States: *Provided*, That such leases or grants shall not include any of the prehistoric ruins in said park or exclude the public from free or convenient access thereto; * * *

Mesa Verde National Park. Leases, etc., permitted. (Amended by 46 Stat. 1043. See p. 135.)

Proviso. Conditions. Expenses.

Excerpt from "An Act Making appropriations for the current and contingent expenses of the Bureau of Indian Affairs, for fulfilling treaty stipulations with various Indian tribes, and for other purposes, for the fiscal year ending June 30, 1914," approved June 30, 1913 (38 Stat. 82)

That an agreement, made at the Navajo Springs Indian Agency, in the State of Colorado, on the tenth day of May, in the year of our Lord nineteen hundred and eleven, with the Wiminuche Band of Southern Ute In-

Agreement with Wiminuche Band of Southern Ute Indians, Colo.

00-00-0000: insert from a book regarding mesa verde national park, page 4cont

dians, belonging to the jurisdiction of the Navajo Springs Indian Agency, be, and the same is hereby, modified and amended to read as follows:

"ARTICLE I

Lands relinquished.

"The said Wiminuche Band of Southern Ute Indians hereby agrees to relinquish and surrender to the United States of America all its right, title, and interest in and to that portion of its reservation described as follows:

"Beginning at a point on the north boundary of the Southern Ute Indian Reservation in southwestern Colorado where the north quarter corner of unsurveyed fractional section two (2), township thirty-four (34) north, range fifteen (15) west, 'south of the Ute boundary,' intersects the same; thence south to the south quarter corner of unsurveyed section twenty-six (26), said township; thence west to the southwest corner of unsurveyed section twenty-five (25), township thirty-four (34) north, range sixteen (16) west; thence north to the northwest corner of unsurveyed fractional section one (1), said township; thence east to the north quarter corner of unsurveyed fractional section two (2), township thirty-four (34) north, range fifteen (15) west, 'south of the Ute boundary,' the place of beginning; fourteen thousand five hundred and twenty (14,520) acres, more or less, lying and being in Montezuma County, State of Colorado.

"ARTICLE II

Lands to be conveyed in exchange.

"In consideration for the lands relinquished and surrendered as aforesaid the United States hereby agrees to convey to said Wiminuche Band of Southern Ute Indians in exchange therefor lands lying within the present boundaries of the Mesa Verde National Park and from the public domain. said lands to become a part of the reservation of said Wiminuche Band of Southern Ute Indians and to take on the same character and title as the rest of the land of the said reservation, of which they become a part by virtue of this agreement, and described as follows:

"Sections one (1), two (2), three (3), four (4), five (5), fractional sections eight (8), nine (9), ten (10), eleven (11), twelve (12), in township thirty-four (34) north, range sixteen (16), west. 'north of the Ute boundary'; also sections twenty-five (25), twenty-six (26), twenty-seven (27), southeast quarter section twenty-eight (28), sections thirty-two (32), thirty-three (33), thirty-four (34), thirty-five (35), and thirty-six (36), township thirty-five (35) north, range sixteen (16) west, containing ten thousand and eighty (10 080) acres, more or less.

"Also sections five (5) and six (6) and fractional sections seven (7) and eight (8) (unsurveyed) in township

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thirty-four (34) north, range seventeen (17) west, 'north of the Ute boundary,' and sections one (1), two (2), three (3), four (4), five (5), and fractional sections eight (8), nine (9), ten (10), eleven (11), and twelve (12) (unsurveyed), in township thirty-four (34) north, range eighteen (18) west, 'north of the Ute boundary,' and sections nineteen (19), twenty (20), twenty-nine (29), thirty (30), thirty-one (31), and thirty-two (32), in township thirty-five (35) north, range seventeen (17) west, and sections twenty (20), twenty-one (21), twenty-two (22), twenty-three (23), twenty-four (24), twenty-five (25), twenty-six (26), twenty-seven (27), twenty-eight (28), twenty-nine (29), thirty-two (32), thirty-three (33), thirty-four (34), thirty-five (35), and thirty-six (36) in township thirty-five (35) north, range eighteen (18), west, New Mexico principal meridian, containing twenty thousand one hundred and sixty (20,160) acres, more or less.

Additional.

"And in case it be found that any portion of the lands herein described have been entered or patented under any of the land laws of the United States, then, and in that event, it is stipulated and agreed that public lands of an equal amount and like character and lying adjacent to the lands herein described be substituted and given to said Wiminuche Band of Southern Ute Indians, to make the total area of lands to be given in amount equal to the above-described lands, the total area in said western tract to contain twenty thousand one hundred and sixty (20,160) acres.

"ARTICLE III

Annuities, etc., not impaired.

"Nothing in this agreement shall be construed to deprive the Indians parties hereto of any annuities or benefits to which they are entitled under existing laws and treaties.

"ARTICLE IV

Ratification required.

"This agreement shall become effective and binding on the parties hereto when ratified by the Congress of the United States."

Agreement confirmed.

That the said agreement be, and the same is hereby, accepted, ratified, and confirmed as herein amended.

Additional lands to be conveyed.

That the Secretary of the Interior is hereby authorized to add to the area conveyed to the Indians in exchange for the lands relinquished any tracts of unappropriated public land adjoining thereto which may be necessary to make the total area of the acreage ceded to the Indians in lieu of that lost to them by any prior existing valid rights attaching thereto.

Mesa Verde National Park. Boundaries extended. Vol. 34, p. 616.

That the boundary of the Mesa Verde National Park, created by the Act of Congress approved June twenty-ninth, nineteen hundred and six (Thirty-fourth Statutes at Large, page six hundred and sixteen), is hereby extended on the south so as to include the land relinquished

00-00-0000: insert from a book regarding mesa verde national park, page 6cont

by the Indians in the foregoing agreement as herein provided and the boundaries of said park shall hereafter be defined as follows:

Description.

Beginning at a point on the north boundary of the Southern Ute Indian Reservation in southwestern Colorado where the north quarter corner of unsurveyed fractional section two (2), township thirty-four (34) north, range fifteen (15) west, "south of the Ute boundary," intersects the same; thence south to the south quarter corner of unsurveyed section twenty-six (26), said township; thence west to the southwest corner of unsurveyed section twenty-five (25), township thirty-four (34) north, range sixteen (16) west; thence north to the northwest corner of unsurveyed fractional section one (1), said township and range; thence west to the southeast corner of fractional section twelve (12), township thirty-four (34) north, range sixteen (16) west, "north of the Ute boundary"; thence north to the northwest corner of section nineteen (19), township thirty-five (35) north, range fifteen (15) west; thence east to the southwest corner of the southeast quarter of section sixteen (16), said township; thence north to the northwest corner of the southeast quarter of said section; thence east to the southwest corner of the northeast quarter of section thirteen (13), said township; thence north to the northwest corner of the northeast quarter of said section; thence east to the southwest corner of section seven (7), township thirty-five (35) north, range fourteen (14) west; thence north to the northwest corner of said section; thence east to the southwest corner of section five (5), said township; thence north to the northwest corner of said section; thence east to the northeast corner of said section; thence south to the southeast corner of the northeast quarter of said section; thence east to the northeast corner of the southwest quarter of section four (4), said township; thence south to the northwest corner of the southeast quarter of section sixteen (16), said township; thence east to the northeast corner of the southeast quarter of said section; thence south to the northwest corner of section twenty-two (22), said township; thence east to the northeast corner of said section; thence south to the northwest corner of section twenty-six (26), said township; thence east along the north section line of section twenty-six (26) to the east bank of the Rio Mancos; thence in a southeasterly direction along the east bank of the Rio Mancos to its intersection with the northern boundary line of the Southern Ute Indian Reservation; thence west along said Indian reservation boundary to its intersection with the range line between ranges fourteen (14) and fifteen (15) west, the place of beginning. (U.S.C., title 16, sec. 111.)

not filed...

Included in Park control, etc.

And the provisions of the Act of June twenty-ninth, eighteen hundred and ninety-six, creating the park, are hereby extended over the same.

00-00-0000: insert from a book regarding mesa verde national park, page 7cont

So much of the Act of June twenty-ninth, nineteen hundred and six, as provides that the custodianship of the Secretary of the Interior shall extend over all prehistoric ruins situated within five miles of the eastern, western, and northern boundaries of the park, as described in said Act, not on lands alienated by patent from the ownership of the United States, is hereby repealed.

Custody of adjoining prehistoric ruins repealed. Vol. 37, p. 617.

not filed

Excerpt from "An Act Making appropriations for sundry civil expenses of the Government for the fiscal year ending June 30, 1918, and for other purposes," approved June 12, 1917 (40 Stat. 152)

The Secretary of the Interior is authorized to accept patented lands or rights of way over patented lands in the Mesa Verde National Park that may be donated for park purposes. (U.S.C., title 16, sec. 116.)

Mesa Verde National Park, Colo. Acceptance of donated lands, etc. (Repealed by 46 Stat. 1028, but subject matter covered by U.S.C., title 16, sec. 6, 41 Stat. 917. See p. 18.)

Act of General Assembly of Colorado, approved May 2, 1927, ceding to the United States exclusive jurisdiction over the Mesa Verde National Park in the State of Colorado (Session Laws of Colorado, 1927, p. 481)

Be it enacted by the General Assembly of the State of Colorado:

not filed

SECTION 1. Exclusive jurisdiction shall be and the same is hereby ceded to the United States over and within all the territory which is now or may hereafter be included in that tract of land in the State of Colorado set aside and dedicated for park purposes by the United States, known as Mesa Verde National Park, saving, however, to the State of Colorado the right to serve civil or criminal process within the limits of the aforesaid park, in suits or prosecutions for or on account of rights acquired, obligations incurred, or crimes committed outside of said park, and saving further to the said State the right to tax persons and corporations, their franchises and property on the lands included in said tracts, and saving also to the persons residing in said park now or hereafter the right to vote at all elections held within the county or counties in which said tracts are situated: *Provided, however*, That jurisdiction shall not vest in the United States now or hereafter over any lands included within said park until the United States, through its proper officer, notifies the State of Colorado, through its Governor, that the United States assumes police jurisdiction over the respective tracts involved.

An Act To accept the cession by the State of Colorado of exclusive jurisdiction over the lands embraced within the Mesa Verde National Park, and for other purposes, approved April 25, 1928 (45 Stat. 458)

Broadened enabling leg.

not filed

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the provisions of the act of the Legislature of the State of Colorado, approved May 2, 1927, ceding to the United States exclusive jurisdiction over the territory

Mesa Verde National Park, Colo. Acceptance of jurisdiction of Colorado over territory included in.

00-00-0000: insert from a book regarding mesa verde national park, page 8cont

Rights reserved to State.

embraced and included within the Mesa Verde National Park, are hereby accepted, and sole and exclusive jurisdiction is hereby assumed by the United States over such territory, saving, however, to the State of Colorado the right to serve civil or criminal process within the limits of the aforesaid park in suits or prosecutions for or on account of rights acquired, obligations incurred, or crimes committed outside of said park; and saving further to the said State the right to tax persons and corporations, their franchises and property on the lands included in said tracts; and saving also to the persons residing in said park now or hereafter the right to vote at all elections held within the county or counties in which said tracts are situated. All the laws applicable to places under the sole and exclusive jurisdiction of the United States shall have force and effect in said park. All fugitives from justice taking refuge in said park shall be subject to the same laws as refugees from justice found in the State of Colorado. (U.S.C., 6th supp., title 16, sec. 117.)

Application of United States laws.

Extradition of criminals.

Assigned to Colorado judicial district.

SEC. 2. That said park shall constitute a part of the United States judicial district for the State of Colorado, and the district court of the United States in and for said district shall have jurisdiction of all offenses committed within said boundaries. (U.S.C., 6th supp., title 16, sec. 117a.)

Punishment of offenses against State laws.

SEC. 3. That if any offense shall be committed in the Mesa Verde National Park, which offense is not prohibited or the punishment for which is not specifically provided for by any law of the United States, the offender shall be subject to the same punishment as the laws of the State of Colorado in force at the time of the commission of the offense may provide for a like offense in said State; and no subsequent repeal of any such law of the State of Colorado shall affect any prosecution for said offense committed within said park. (U.S.C., 6th supp., title 16, sec. 117b.)

Hunting, fishing, etc., prohibition.

SEC. 4. That all hunting or the killing, wounding, or capturing at any time of any wild bird or animal, except dangerous animals when it is necessary to prevent them from destroying human lives or inflicting personal injury, is prohibited within the limits of said park; nor shall any fish be taken out of the waters of the park in any other way than by hook and line, and then only at such seasons and in such times and manner as may be directed by the Secretary of the Interior. That the Secretary of the Interior shall make and publish such general rules and regulations as he may deem necessary and proper for the management and care of the park and for the protection of the property therein, especially for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man, all timber, natural curiosities, or wonderful objects

Regulations, etc., to be prescribed.

00-00-0000: insert from a book regarding mesa verde national park, page 9cont

within said park, and for the protection of the animals and birds in the park from capture or destruction, and to prevent their being frightened or driven from the park; and he shall make rules and regulations governing the taking of fish from the streams or lakes in the park. Possession within said park of the dead bodies, or any part thereof, of any wild bird or animal shall be prima facie evidence that the person or persons having the same are guilty of violating this Act. Any person or persons, or stage or express company, or railway company, who knows or has reason to believe that they were taken or killed contrary to the provisions of this Act and who receives for transportation any of said animals, birds, or fish so killed, caught, or taken, or who shall violate any of the provisions of this Act or any rule or regulation that may be promulgated by the Secretary of the Interior with reference to the management and care of the park or for the protection of the property therein, for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man, and timber, natural curiosities, or wonderful objects within said park, or for the protection of the animals, birds, or fish in the park, or who shall within said park commit any damage, injury, or spoliation to or upon any building, fence, hedge, gate, guidepost, tree, wood, underwood, timber, garden, crops, vegetables, plants, land, springs, natural curiosities, or other matter or thing growing or being thereon or situated therein, shall be deemed guilty of a misdemeanor and shall be subject to a fine of not more than $500 or imprisonment not exceeding six months, or both, and be adjudged to pay all costs of the proceedings: *Provided, however*, That any person or persons who may, without permission from the Secretary of the Interior, in any manner willfully remove, disturb, destroy, or molest any of the ruins, mounds, buildings, graves, relics, or other evidences of an ancient civilization from said park shall upon conviction before any court having jurisdiction of such offenses be fined not more than $1,000 or imprisoned not more than twelve months, or such person or persons may be fined and imprisoned, at the discretion of the judge, and shall be required to restore the property disturbed, if possible. (U.S.C., 6th supp., title 16, sec. 117c.)

Evidence of violations.

Punishment for violating provisions hereof, etc.

Proviso. Additional punishment for molesting ruins, etc.

SEC. 5. That all guns, traps, teams, horses, or means of transportation of every nature or description used by any person or persons within said park limits when engaged in killing, trapping, ensnaring, or capturing such wild beasts, birds, or animals shall be forfeited to the United States and may be seized by the officers in said park and held pending the prosecution of any person or persons arrested under charge of violating the provisions of this Act, and upon conviction under this Act of such person or persons using said guns, traps, teams, horses,

Forfeiture of guns, traps, etc., illegally used.

00-00-0000: insert from a book regarding mesa verde national park, page 10cont

or other means of transportation, such forfeiture shall be adjudicated as a penalty in addition to the other punishment provided in this Act. Such forfeited property shall be disposed of and accounted for by and under the authority of the Secretary of the Interior. (U.S.C., 6th supp., title 16, sec. 117d.)

Commissioner for. Appointment, authority, etc.

SEC. 6. That the United States District Court for the State of Colorado shall appoint a commissioner who shall reside in the park and who shall have jurisdiction to hear and act upon all complaints made of any violations of law or of the rules and regulations made by the Secretary of the Interior for the government of the park and for the protection of the animals, birds, and fish, and objects of interest therein, and for other purposes authorized by this Act.

Judicial powers in violations of rules, etc.

Such commissioner shall have power, upon sworn information, to issue process in the name of the United States for the arrest of any person charged with the commission of any misdemeanor, or charged with a violation of the rules and regulations, or with a violation of any of the provisions of this Act prescribed for the government of said park and for the protection of the animals, birds, and fish in said park, and to try the person so charged, and, if found guilty, to impose punishment and to adjudge the forfeiture prescribed.

Appeals to district court.

In all cases of conviction an appeal shall lie from the judgment of said commissioner to the United States District Court for the State of Colorado, and the United States district court in said district shall prescribe the rules of procedure and practice for said commissioner in the trial of cases and for appeal to said United States district court. (U.S.C., 6th supp., title 16, sec. 117e.)

Procedure in criminal cases.

SEC. 7. That such commissioner shall also have power to issue process as hereinbefore provided for the arrest of any person charged with the commission within said boundaries of any criminal offense not covered by the provisions of section 4 of this Act to hear the evidence introduced, and if he is of opinion that probable cause is shown for holding the person so charged for trial shall cause such person to be safely conveyed to a secure place of confinement within the jurisdiction of the United States District Court for the State of Colorado, and certify a transcript of the record of his proceedings and the testimony in the case to said court, which court shall have jurisdiction of the case: *Provided*, That the said commissioner shall grant bail in all cases bailable under the laws of the United States or of said State. (U.S.C., 6th supp., title 16, sec. 117f.)

Proviso. Bail.

Service of process.

SEC. 8. That all process issued by the commissioner shall be directed to the marshal of the United States for the district of Colorado, but nothing herein contained shall be so construed as to prevent the arrest by any officer or employee of the Government or any person employed by the United States in the policing of said reser-

Summary arrests.

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vation within said boundaries without process of any person taken in the act of violating the law or this Act or the regulations prescribed by said Secretary as aforesaid. (U.S.C., 6th supp., title 16, sec. 117g.)

Pay of commissioner.

SEC. 9. That the commissioner provided for in this Act shall be paid an annual salary as appropriated for by Congress, payable quarterly: *Provided*, That the said commissioner shall reside within the exterior boundaries of said Mesa Verde National Park, at a place to be designated by the court making such appointment: *And provided further*, That all fees, costs, and expenses collected by the commissioner shall be disposed of as provided in section 11 of this Act. (U.S.C., 6th supp., title 16, sec. 117h.)

Provisos. Residence required. Disposal of fees, etc.

not filed...

United States fees.

SEC. 10. That all fees, costs, and expenses arising in cases under this Act and properly chargeable to the United States shall be certified, approved, and paid as are like fees, costs, and expenses in the courts of the United States. (U.S.C., 6th supp., title 16, sec. 117i.)

Deposit of fines and costs

SEC. 11. That all fines and costs imposed and collected shall be deposited by said commissioner of the United States, or the marshal of the United States collecting the same, with the clerk of the United States District Court for the State of Colorado. (U.S.C., 6th supp., title 16, sec. 117j.)

Acceptance of cession.

SEC. 12. That the Secretary of the Interior shall notify, in writing, the Governor of the State of Colorado of the passage and approval of this Act.

not filed...

Excerpt from "An Act Making appropriations for the Department of the Interior for the fiscal year ending June 30, 1931, and for other purposes," approved May 14, 1930 (46 Stat. 315)

Mesa Verde National Park, Colo. Operation of Aileen Nusbaum Hospital.

Appropriations made for Mesa Verde National Park shall be available for the operation of the Aileen Nusbaum Hospital and the furnishing of the necessary service in connection therewith at rates to be fixed by the Secretary of the Interior. (U.S.C., 6th supp., title 16, sec. 118.)

not filed...

Excerpt from "An Act To provide for uniform administration of the national parks by the United States Department of the Interior, and for other purposes," approved January 26, 1931 (46 Stat. 1043)

National parks, administration. Mineral prospecting, etc., Mesa Verde, Colo., forbidden. (Amends 36 Stat. 796. See p. 127.)

No permit, license, lease, or other authorization for the prospecting, development, or utilization of the mineral resources within the Mesa Verde National Park, Colorado, * * * shall be granted or made. (U.S.C., 6th supp., title 16, sec. 115.)

An Act To provide for the addition of certain lands to the Mesa Verde National Park, Colorado, and for other purposes, approved February 26, 1931 (46 Stat. 1422)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purpose of protecting the scenery

00-00-0000: insert from a book regarding mesa verde national park, page 12cont

Mesa Verde National Park, Colo. Additions to, authorized.

along the Point Lookout Road between the north boundary of the Mesa Verde National Park and this road's juncture with the Cortez-Mancos Road, the President of the United States is hereby authorized, upon the recommendation of the Secretary of the Interior, to add to the said Mesa Verde National Park, Colorado, by executive proclamation, a strip of land two hundred and sixty feet wide along and including said Point Lookout Road, and the triangle formed by the fork in said road and such other public land along or adjacent to said road and right of way and lands as may be acquired by gift or by exchanges as hereinafter provided, which lands shall thereupon become and be a part of said park subject to all laws and regulations applicable thereto. (U.S.C., 6th supp., title 16, sec. 111.)

Acceptance of donations.

Exchange authorized.

Value ascertained.

Title.

SEC. 2. That for the purpose of carrying out the provisions of this Act the Secretary of the Interior is hereby authorized to accept donations of land or right of way, or to acquire title to any land along or adjacent to the said Point Lookout Road as may be deemed desirable by him for the protection of said road. by exchange for any unappropriated public lands within sections 29 and 32, township 36 north, range 14 west, New Mexico principal meridian, of equal value; the value of the lands offered for exchange hereunder and the value of the lands of the United States to be selected therefor shall be ascertained in such manner as the Secretary of the Interior may direct; and the owners of lands offered to the United States pursuant hereto shall, before the exchange is effective, furnish the Secretary of the Interior evidence satisfactory to him of title to the lands offered in exchange.

*U.S. GOVERNMENT PRINTING OFFICE: 1986-0-773-906/65048

EXHIBIT 5

An Act to revise the boundaries of Mesa Verde National Park, Colorado, and for other purposes. (77 Stat. 473)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the boundaries of Mesa Verde National Park are hereby revised to include the following described lands which, subject to valid existing rights, shall be administered as a part of the park in accordance with the Act entitled "An Act to establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat. 535), as amended and supplemented (16 U.S.C. 1 et seq.):

NEW MEXICO PRINCIPAL MERIDIAN, COLORADO

Township 36 North, Range 14 West

Section 29: All portions of the south half and the southeast quarter northwest quarter lying south and west of the right-of-way of United States Highway 160.

Section 32: Those portions of the section lying south and west of the right-of-way of United States Highway 160, except the north entrance road to the park, the southeast quarter southwest quarter, and the southeast quarter northeast quarter southwest quarter.

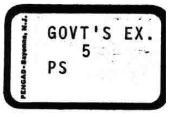
Section 33: That portion of the northwest quarter northwest quarter, more particularly described as follows: Beginning at a point on the west line of section 33 which is 456.5 feet south of the northwest corner of section 33, thence running south along the west line of section 33 for a distance of 373.0 feet, thence running east for a distance of 516.8 feet, thence running north for a distance of 132.7 feet, thence running north 65 degrees 06 minutes west for a distance of 570.0 feet along the southwesterly right-of-way of Highway 160 to the point of beginning.

SEC. 2. The Secretary of the Interior may acquire by purchase, with donated or appropriated funds, lands and interests in lands within the boundaries of Mesa Verde National Park as revised by section 1 of this Act.

SEC. 3. There are hereby authorized to be appropriated such sums, but not more than $125,000 as may be necessary to carry out the provisions of this Act.

Approved December 23, 1963.

Legislative History
House Report No. 784 (Committee on Interior and Insular Affairs).
Senate Report No. 778 (Committee on Interior and Insular Affairs).
Congressional Record, Vol. 109 (1963):
Oct. 7: Considered and passed House.
Dec. 16: Considered and passed Senate.



14. Mesa Verde

An Act to revise the boundaries of Mesa Verde National Park, Colorado, and for other purposes. (77 Stat. 473)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That the boundaries of Mesa Verde National Park are hereby revised to include the following described lands which, subject to valid existing rights, shall be administered as a part of the park in accordance with the Act entitled "An Act to establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat. 535), as amended and supplemented (16 U.S.C. 1 et seq.):

NEW MEXICO PRINCIPAL MERIDIAN, COLORADO

Township 36 North, Range 14 West

Section 29: All portions of the south half and the southeast quarter northwest quarter lying south and west of the right-of-way of United States Highway 160.

Section 32: Those portions of the section lying south and west of the right-of-way of United States Highway 160, except the north entrance road to the park, the southeast quarter southwest quarter, and the southeast quarter northeast quarter southwest quarter.

Section 33: That portion of the northwest quarter northwest quarter, more particularly described as follows: Beginning at a point on the west line of section 33 which is 456.5 feet south of the northwest corner of section 33, thence running south along the west line of section 33 for a distance of 373.0 feet, thence running east for a distance of 516.8 feet, thence running north for a distance of 132.7 feet, thence running north 65 degrees 06 minutes west for a distance of 570.0 feet along the southwesterly right-of-way of Highway 160 to the point of beginning.

SEC. 2. The Secretary of the Interior may acquire by purchase, with donated or appropriated funds, lands and interests in lands within the boundaries of Mesa Verde National Park as revised by section 1 of this Act.

SEC. 3. There are hereby authorized to be appropriated such sums, but not more than $125,000 as may be necessary to carry out the provisions of this Act.

Approved December 23, 1963.

Legislative History

House Report No. 754 (Committee on Interior and Insular Affairs).
Senate Report No. 778 (Committee on Interior and Insular Affairs).
Congressional Record, Vol. 109 (1963):
Oct. 7: Considered and passed House.
Dec. 16: Considered and passed Senate.

171

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11. Mesa Verde National Park

Enlarging the park: Proclamation (No. 1998) of May 27, 1932 ..... Page 38

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 1998—May 27, 1932—47 Stat. 2511]

WHEREAS Congress by act of February 26, 1931 (46 Stat. 1422–1423), entitled "AN ACT To provide for the addition of certain lands to the Mesa Verde National Park, Colorado, and for other purposes," authorized the President of the United States, upon the recommendation of the Secretary of the Interior, to add to said park by Executive proclamation a strip of land 260 ft. wide along and including Point Lookout Road between the north boundary of the Mesa Verde National Park and the junction with the Cortez-Mancos Road and the triangle formed by the fork in said Point Lookout Road and lands along or adjacent to said road and right of way as may be acquired by gift or by exchanges, and such other public lands along or adjacent to said road and right of way as may be recommended; and

WHEREAS by deed dated March 11, 1932, there was conveyed to the United States a strip of land 260 ft. wide along the said Point Lookout Road in accordance with the act of February 26, 1931; and

WHEREAS for consideration as a part of the Point Lookout Road, by Executive Order No. 5424, dated August 15, 1930, there was withdrawn from public disposition, in aid of legislation, the E. ½ SW. ¼ sec. 32, T. 36 N., R. 14 W., New Mexico principal meridian; and

WHEREAS the said Secretary of the Interior has recommended the addition to the park of the lands hereinafter described; and

WHEREAS it appears that the public interest would be promoted by including the above-mentioned strip of 260 ft. in width and a part of the said E. ½ SW. ¼ sec. 32 within said park, for preservation, scenic, and road-protection purposes;

NOW, THEREFORE, I, Herbert Hoover, President of the United States of America, do proclaim that, subject to all valid existing rights, the lands hereinafter described shall be, and are hereby, added to and made a part of said park, and they are hereby made subject to the provisions of the act of August 25, 1916 (39 Stat. 535), entitled "AN ACT To establish a National Park Service, and for other purposes," and all acts supplementary thereto and amendatory thereof and all other laws and rules and regulations applicable to and extending over the said park;

NEW MEXICO PRINCIPAL MERIDIAN

T. 36 N., R. 14 W., SE. ¼ NE. ¼ SW. ¼, SE. ¼ SW. ¼ sec. 32, and a parcel of land which has been conveyed to the United States in the SE. ¼ SE. ¼ sec. 29, and E. ½ NE. ¼, NE. ¼ SE. ¼, and W. ½ SE. ¼ sec. 32, described as follows: All that part or parts of the SE. ¼ SE. ¼ sec. 29, E. ½ NE. ¼, NE. ¼ SE. ¼, and W. ½ SE. ¼ sec. 32, T. 36 N., R. 14 W. of the New Mexico principal meridian, lying 130 ft. on each side of the center line of the present public road between the north boundary of the Mesa Verde National Park and the Cortez-Mancos State Highway, together with all the land within 130 ft. on each side of the center line of the two curves of the said road as they enter the Cortez-Mancos State Highway,

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and all the land lying between the two said curves and the said Cortez-Mancos Highway; said parcel of land being more particularly described as follows: 130 ft. in width on each side of a line beginning at a point on the north boundary of the Mesa Verde National Park, and on the south section line of said sec. 32, 263 ft. west of the quarter-section corner of said sec. 32, and running thence, following the center line of said highway, N. 21°6′ W. 300 ft., thence on a 10° curve to right 550 ft., thence N. 33°54′ E. 479.5 ft., thence N. 33°54′ E. 130 ft., thence on a 6° curve to right 408.3 ft., thence N. 58°24′ E. 359.9 ft., thence on a 2° curve to left 196.7 ft., thence N. 54°28′ E. 656.4 ft., thence on a 20° curve to left 203.8 ft., thence N. 13°43′ E. 771.4 ft., thence on a 6° curve to left 460 ft., thence N. 13°53′ W. 350 ft., thence on a 6° curve to right 750 ft., thence N. 31°07′ E. 398.3 ft.; said parcel being, further, 130 ft. in width on the right side of a line beginning at the north end of said course N. 31°07′ E., and running thence on a 27° curve to right 316.5 ft., and thence S. 58°53′ E. 200 ft., to an intersection with the Cortez-Mancos Highway, and 130 ft. in width on the left side of a line beginning at the north end of said course N. 31°07′ E., and running thence on a 27° curve to left 301.7 ft., and thence on a 4° curve to right 200 ft., to an intersection with the Cortez-Mancos Highway, and together with the land lying between the said two 27° curves; containing approximately 60.2 acres.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed,

DONE at the City of Washington this 27th day of May, in the year of our Lord nineteen hundred and thirty-two, and of the Independence [SEAL] of the United States of America the one hundred and fifty-sixth.

HERBERT HOOVER.

By the President:

HENRY L. STIMSON,
Secretary of State.

12. Mesa Verde

An Act to designate certain lands within units of the National Park System as wilderness; to revise the boundaries of certain of those units; and for other purposes. (90 Stat. 2692) (P.L. 94-567)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in accordance with section 3(c) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132(c)), the following lands are hereby designated as wilderness, and shall be administered by the Secretary of the Interior in accordance with the applicable provisions of the Wilderness Act;

* * * * * * *

(h) Mesa Verde National Park, Colorado, wilderness comprising eight thousand one hundred acres depicted on a map entitled "Wilderness Plan, Mesa Verde National Park, Colorado", numbered 307-20,007-A and dated September 1972, to be known as the Mesa Verde Wilderness.

SEC. 2. A map and description of the boundaries of the areas designated in this Act shall be on file and available for public inspection in the office of the Director of the National Park Service, Department of the Interior, and in the office of the Superintendent of each area designated in the Act. As soon as practicable after this Act takes effect, maps of the wilderness areas and descriptions of their boundaries shall be filed with the Interior and Insular Affairs Committees of the United States Senate and House of Representatives, and such maps and descriptions shall have the same force and effect as if included in this Act: *Provided*, That correction of clerical and typographical errors in such maps and descriptions may be made.

SEC. 3. All lands which represent potential wilderness additions, upon publication in the Federal Register of a notice by the Secretary of the Interior that all uses thereon prohibited by the Wilderness Act have ceased, shall thereby be designated wilderness.

SEC. 6. The areas designated by this Act as wilderness shall be administered by the Secretary of the Interior in accordance with the applicable provisions of the Wilderness Act governing areas designated by that Act as wilderness areas, except that any reference in such provisions to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this Act, and, where appropriate, any reference to the Secretary of Agriculture shall be deemed to be a reference to the Secretary of the Interior.

* * * * * * *

Approved October 20, 1976.

United States Department of the Interior

OFFICE OF THE SOLICITOR
Rocky Mountain Region
P.O. Box 25007
Denver Federal Center
Denver, Colorado 80225

October 5, 1992

NPS.RM.2327

Memorandum

To: Regional Director, National Park Service, Rocky Mountain Region

From: Regional Solicitor, Rocky Mountain Region

Subject: Case No. W-1633-76, Water Division No. 7, Application for Water Right at Mesa Verde National Park

We have reviewed the analysis dated August 25, 1992, of the Reserved Water Right claim for the Mancos River in Mesa Verde National Park by Lynn A. Johnson of the Department of Justice, Denver Field Office, and are in complete agreement with her conclusion that the United States not pursue a Reserved Water Rights claim for instream flows on the Mancos. It would appear there is more to lose than gain in pursuing such claims for the Mancos River.

If our office can be of any assistance in this matter, please advise. If you are in agreement with Ms. Johnson's recommendation, she will need something in writing from the National Park Service to that effect.

Ralph O. Canaday
Attorney

cc: Lynn A. Johnson, Department of Justice
Owen Williams, National Park Service, Water Resources Division, Water Rights Branch, FOCO

U.S. Department of Justice

Environment and Natural Resources Division

WMC:LAJohnson
90-1-2-965

Denver Field Office
Suite 945
999 18th Street
Denver, Colorado 80202

Commercial Number
(303) 294-1900
FTS/330-1900
Telefax Number
(303) 294-1931
FTS/330-1931

August 25, 1992

Mr. Robert Baker
Regional Director
National Park Service
12795 W. Alameda
Lakewood, CO 80228

PRIVILEGED AND CONFIDENTIAL

Re: Case No. W-1633-76, Water Division No. 7, Application for Water Rights at Mesa Verde National Park

Dear Mr. Baker:

As you may be aware, the United States has claimed reserved water rights in Mesa Verde National Park and Hovenweep and Yucca House National Monuments. An application for these rights has been pending since 1976, when the United States was brought into the general adjudication in Water Division No. 7 pursuant to the McCarran Amendment. Because of pressure from the Court to resolve the case, we started settlement discussions with the State of Colorado, a major objector to these claims. The State has tentatively agreed to the entry of a decree with reserved rights for the springs and water holes located in these parks and monuments. However, it will not agree to a decree for any reserved instream flow rights to the Mancos River in Mesa Verde National Park but will force us to prove the claims in Court.

It is our recommendation that we continue settlement negotiations with the State and the other objectors and negotiate a decree which includes reserved rights to the springs and the water holes but not for instream flows in the Mancos. A reserved water right to instream flows in the Mancos is not supported by

the language of the statute reserving the land for Mesa Verde National Park nor its legislative history.

The United States has a reserved water right in the minimum amount necessary to fulfill the purposes of Mesa Verde National Park. The right does not have to be expressly provided for but is implied from the purposes of the reservation. An argument can be made that a reserved right to springs and water holes can be implied from the purposes of Mesa Verde as identified in the legislation; to protect the ruins and other prehistoric relics, providing Park visitors with a complete interpretation of the life of the Anasazi.

However, an argument for a reserved right to instream flows in the Mancos is not justified based on the purposes of Mesa Verde as identified in the legislation. The Mancos River flows in a remote area of the Park, inaccessible to Park visitors. Moreover, the Park Service has no interpretive programs or management goals related to the Mancos River.

The Act of June 29, 1906 (16 USC § 111), reserves the land for Mesa Verde National Park. The Act states the Secretary of the Interior should prescribe rules and regulations as may be necessary for the care and management of the Park. "Such regulations shall provide for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric and primitive man within said park." 16 USC § 112.

Congress recognized in the Committee Report that the lands to be included in Mesa Verde National Park were "situated upon a high mesa and are wholly unfit for any agricultural or mining purposes; nor is that land valuable for grazing owing to the want of water." H.R. Rep No. 4944, 59th Cong, 1st Sess. 1 (1906). In addition, the Congress intended to allow the Bureau of Reclamation to build storage reservoirs on the upper Mancos to irrigate the Southern Ute reservation. Id. at 8. Preserving water resources was clearly not a purpose of the reservation.

In 1913, Congress exchanged lands in the Southern Ute Reservation for lands within Mesa Verde National Park. Mr. Marshall, the USGS geographer recommended that the new boundary line for the Park be drawn on the east side of the Mancos, which would include the river in the Park. Approximately, three or four miles of the Mancos were included to form the southeastern boundary of the Park. There is no legislative history explaining why the boundary line was drawn on the east side of the Mancos to include it in the Park and no stated purpose for the use of the water in the Mancos to fulfill Park purposes.

The Act of April 25, 1928, which accepted the cession by the State of Colorado of exclusive jurisdiction over the land embraced within Mesa Verde National Park, provided that the Secretary of the Interior should make rules and regulations necessary for the management and care of the Park:

> especially for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man, all timber, natural curiosities, or wonderful objects within said park, and for the protection of the animals and birds in the park from capture or destruction, and to prevent their being frightened or driven from the park; and he shall make rules and regulations governing the taking of fish from the streams or lakes in the park.

16 USC. § 117c.

This Act again emphasizes the protection the ruins and prehistoric relics in the Park but also provides that timber, and natural curiosities should be preserved and animals and birds should be protected from capture or destruction. However, this language concerning the protection of natural curiosities and animals and birds appears to relate only to protection from hunting and fishing.

The language of the 1906 Act reserving land for Mesa Verde National Park and its legislative history is really very clear. Congress intended to establish Mesa Verde for the sole purpose of protecting the ruins and the prehistoric relics. The addition of the authority of the Secretary to promulgate rules and regulations to protect the natural curiosities and the animals and birds in the Act of April 25, 1928, almost 22 years after the Park was reserved, is not enough to provide the basis for a claim for instream flows in the Mancos.

We expect to be able to settle these claims and agree with the objectors on a proposed decree for the Court to enter if no flows are claimed for the Mancos River. Otherwise, we will have to prove the claims in Court. Given the language of the statute and the legislative history, it is unlikely that the Court will be convinced that an instream flow in the Mancos River is necessary to fulfill the purpose Congress intended for Mesa Verde. Pursuing these claims in trial risks the Park Service being able to obtain decrees for more legitimate claims for reserved rights in other national parks and monuments. Moreover,

there is no guarantee if we are forced to trial that the Court will decide that reserved water rights are implied for the springs and water holes as necessary to fulfill the purpose of protecting the ruins and prehistoric relics. The United States could end up with no reserved water rights in these parks and monuments.

Therefore, we recommend that we do not pursue a decree with claims for instream flows in the Mancos and that we try to work with the objectors in negotiating a decree that provides for reserved rights in the springs and the water holes.

We would be happy to meet with you to discuss these issues further if you think it would be of assistance. I look forward to hearing from you.

Sincerely,

Lynn A. Johnson
Attorney
General Litigation Section

cc: Owen Williams
Marcy Culpin

The US was willing to drop from earlier proposed decrees, but the State agreed to provide a modified instream flow for the Mancos River in later decrees.

WR Hansen

Supporting Hydro Data

08-31-1994: handwritten note of telephone conversion regarding draft decree

Telephone Conversation w/ Lynn Johnson (DOJ) on 8/31/94

- State has responded to our draft decree. After review by Ken Beggs (WDT District Engineer), the State proposes to offer the United States an 1995 instream flow water right on the Mancos River with the following flow regime:

Acre-ft (St)	Month/s	Q (cfs)	NPS Decree
Oct 307.44 Dec 307.44 Nov 297.59 Jan 307.44	Oct thru Jan	5	Oct 15 Dec 9 Nov 10 Jan 8
555.38	Feb	10	14
922.33	Mar	15	28
1785.15	Apr	30	64
3074.43	May	50	90
892.58	June	15	44
491.91	July	8	17
307.44	Aug	5	16
9,249.07			

46.5% of estimated annual flow on Mancos River where it enters MEVE.

- The State will consider this right a Fed. reserved right.
- The State will not give us the 1985 priority date (sub-ordination date to the Ute Mtn Indians).
- I will check the WDT tabulation of priority dates to determine what rights exist after 1985, including conditional rights
- Need to be careful - if we accept offer quickly State may counter. Also need to be aware of ROMD decree timing (signing & objection).

W. R. Hansen

Mancos River & Tributaries — Water Rights Tabulation — July 1, 1994 — Page 95

Name of Structure	Typ	Name of Source	WD	LOCATION	Use	Net Abs	Net Cond	Alt/Exch	U	Adj Date	P Adj Date	Appro Date	D AdminNumber	ID#	Pri/Cl#	Line
L. K. #2 PUMP AND PL	*	CHICKEN CREEK	34	NW NE NW 15 36 N 13 W N	IDS	0.400			C	12/31/1975	12/31/1974	02/26/1975	45710.00000	592	W 1306	1
GRAF DITCH	D	WEBBER CREEK	34	NW SW SE 20 35 N 13 W N	I	0.500	1.500		C	12/31/1975	12/31/1974	05/20/1975	45795.00000	586	W 1375	2
ROSCIO DITCH	D	RETURN FLOW	34	SE SW SW 28 36 N 13 W N	IS	0.200			C	12/31/1977	12/31/1976	12/31/1973	46386.45290	598	W 1756	3
COLBERT RESERVOIR	*	MANCOS RIVER	34	NW SW SW 7 35 N 13 W N	ID		2.660		A	12/31/1978	12/31/1976	11/30/1977	46720.00000	3596	W 1790	4
CULP DITCH	D	MUD CREEK	34	SW NE SW 8 36 N 13 W N	IS	0.500			C	12/31/1978	12/31/1977	04/30/1945	46751.34818	602	W 1884	5
MARYS DITCH	D	MUD CREEK	34	NE SE SW 8 36 N 13 W N	I	0.200			C	12/31/1978	12/31/1977	12/31/1953	46751.37985	601	W 1853	6
OLD MORMON LAKE DITCH	*	WEBBER CREEK	34	NW SW NE 8 35 N 13 W N	IF*	0.500			C	12/31/1978	12/31/1977	10/31/1971	46751.44498	600	W 1856	7
COLBERT RESERVOIR	*	MANCOS RIVER	34	NW SW SW 7 35 N 13 W N	IO	2.660			A	12/31/1978	12/31/1977	11/30/1977	46751.46720	3596	82 2	8
GARRETT DITCH	D	MUD CREEK	34	NE SE SE 26 36 N 14 W N	IDS	1.000			C	12/31/1978	12/31/1977	06/21/1978	46925.00000	599	W 1846	9
CURTIS DITCH	D	MANCOS RIVER	34	NE SW NW 32 36 N 13 W N	I	0.250			C	12/31/1979	12/31/1978	12/31/1977	47116.46751	603	79 81	10
SHERMS WATER SYSTEM	*	RETURN FLOW	34	NW NW NE 11 34 N 17 W N	I		3.333		C	12/31/1981	12/31/1980	11/25/1981	48176.00000	604	81 126	11
NAVAJO WASH IRR CANAL	D	RETURN FLOW	34	NE SE SW 36 33 N 18 W N	I	1.000	14.000		C	12/31/1982	12/31/1981	07/01/1974	48212.45472	605	82 146	12
MELSNESS SPRING	S	MUD CREEK	34	NE NW NW 17 36 N 13 W N	IDS	0.050			C	12/31/1983	12/31/1982	07/01/1970	48577.44011	607	83 37	13
KARA SPRING	S	MUD CREEK	34	SE NE SW 3 36 N 14 W N	D	0.050			C	12/31/1983	12/31/1982	12/31/1975	48577.46020	606	83 29	14
HONEY POND NO 2	R	CHICKEN CREEK	34	SW NE NW 28 36 N 13 W N	PO	6.000			A	12/31/1983	12/31/1982	09/01/1977	48577.46630	3740	83 76	15
ROACH DITCH	*	MIDDLE FORK MANCOS R	34	SW SW SW 13 36 N 13 W N	I	0.100			C	12/31/1984	12/31/1983	11/23/1976	48942.46348	609	84 97	16
THERESA'S POND AND PUMP	*	PERKINS DRAW	34	SW SW SE 33 36 N 13 W N	I	0.250			C	12/31/1984	12/31/1983	06/30/1982	48942.48393	633	90 45	17
WEST MANCOS RIVER	D	WEST FORK MANCOS R	34	NE SW SE 25 37 N 13 W N	D	4.000			C	12/31/1984	12/31/1983	07/13/1984	49137.00000	1900	84 266	18
N FORK WEST MANCOS RIVER	D	WEST FORK MANCOS R	34	SE NW NE 23 37 N 12 W N	D	2.000			C	12/31/1984	12/31/1983	07/13/1984	49137.00000	1901	84 267	19
EAST MANCOS RIVER	D	EAST FORK MANCOS R	34	SW SE SW 23 36 N 13 W N	D	2.000			C	12/31/1984	12/31/1983	07/13/1984	49137.00000	1902	84 268	20
MIDDLE MANCOS RIVER	D	MIDDLE FORK MANCOS R	34	NW SE SE 5 36 N 12 W N	D	3.000			C	12/31/1984	12/31/1983	07/13/1984	49137.00000	1903	84 269	21
D-1101	D	RETURN FLOW	34	SW SE SE 5 32 N 17 W N	I	6.000			C	12/31/1976		03/02/1868	49308.00000	639	W1603-760	22
JORDAN DITCH	D	MUD CREEK	34	SW NW SE 25 36 N 14 W N	I	0.750			C	12/31/1986	12/31/1985	12/31/1950	49673.29584	611	86 24	23
GRAF DITCH	D	WEBBER CREEK	34	NW SW SE 20 35 N 13 W N	I	0.830			C	12/31/1987	12/31/1986	05/20/1975	50038.45795	586	87 73	24
HENSON PUMP	L	MUD CREEK	34	NE SE SE 11 36 N 14 W N	ISF	0.050			C	12/31/1987	12/31/1986	10/01/1986	50038.49947	613	87 21	25
HERON DITCH	D	MANCOS RIVER	34	SE NE NW 8 35 N 13 W N	IS	0.500			C	12/31/1988	12/31/1987	07/01/1987	50403.50220	634	88 18	26
RED ARROW RESERVOIR	R	GOLD RUN DRAW	34	NW NW NW 13 36 N 12 W N	N		2.750		A	12/31/1988	12/31/1987	06/06/1988	50561.00000	3991	88 58	27
HASTINGS PUMP	P	CHICKEN CREEK	34	SE NW SW 21 36 N 13 W N	I	0.100			C	12/31/1988	12/31/1987	09/01/1988	50648.00000	635	88 106	28
GARRETT PUMP	*	MUD CREEK	34	SE SW SE 24 36 N 14 W N	I		2.000		C	12/31/1989	12/31/1988	05/08/1989	50897.00000	636	89 24	29
JACKSON GULCH RESERVOIR	R	WEST FORK MANCOS R	34	NW NE NW 10 36 N 13 W N	IM*S	1385.000			A	12/31/1991	12/31/1990	12/31/1954	51499.38350	3589	91 58	30
JACKSON GULCH INLET CNL	*	WEST FORK MANCOS R	34	NE SW SE 25 37 N 13 W N	MP	258.000			C	12/31/1991	12/31/1990	12/31/1971	51499.44559	535	91 58	31
JACKSON GULCH OUTLET CNL	*	WEST FORK MANCOS R	34	NE NW 10 36 N 13 W N	P		33.000		C	12/31/1991	12/31/1990	12/31/1990	51499.51499	536	91 58	32
JACKSON GULCH RESERVOIR	R	WEST FORK MANCOS R	34	NW NE NW 10 36 N 13 W N	pI*		~~2001.000~~ 616.00 1385.00		A	12/31/1991	12/31/1990	12/31/1990	51499.51499	3589	91 58	33
BOUNDULIS POND	R	MUD CREEK	34	NE NE SW 12 36 N 14 W N	I		1.650		A	12/31/1991	12/31/1990	07/11/1991	51691.00000	4496	91 28	34
WESLEY SHEEK NW DITCH	D	WEST FORK MANCOS R	34	NW SW NW 13 36 N 13 W N	I	1.000			C	12/31/1991	12/31/1990	09/04/1991	51746.00000	680	91 52	35
JONES WASTE WATER DITCH	D	WEST FORK MANCOS R	34	NW SE SW 13 36 N 13 W N	I	1.000			C	12/31/1991	12/31/1990	09/04/1991	51746.00000	681	91 51	36
CAVENESS SPRING	S	MANCOS RIVER	34	SW SW SE 31 36 N 12 W N	S	0.250			C	12/31/1992	12/31/1991	12/31/1959	51864.A0176	683	92 63	37
DOTY'S PUMP	P	MANCOS RIVER	34	NW NE NW 12 35 N 14 W N	IFB	0.100			C	12/31/1992	12/31/1991	12/31/1979	51864.47481	682	92 63	38
DIETZ-SIKES HOPE DITCH	D	MUD CREEK	34	SE SW SW 2 35 N 14 W N	ID		1.000		C	12/31/1992	12/31/1991	09/15/1992	52125.00000	684	92 86	39
STROHMER POND	R	SEABURY DRAW	34	SE NW NW 8 35 N 13 W N	I		0.800		A	12/31/1993	12/31/1992	06/16/1993	52397.00000	3742	93 39	40
						262.58 cfs	41.20 cfs									
						303.78										

STORAGE RTS = 2001.00 (1385+616)

Only five rights earlier than 1963 (boundry amendment). Most of MEVE reserved in 1906 & 1913.

09/06/94 12:37 FAX 303 866 5417 WATER RESOURCES 002

May 18, 1990

HYDROLOGIST'S REPORT

MONTHLY FLOW CALCULATIONS FOR THE MANCOS RIVER IN MESA VERDE NATIONAL PARK

by Jeff Hughes

As part of the Colorado Water Division 7 adjudication, claims were made for the Mancos River within Mesa Verde National Park (MEVE) at the request of MEVE staff and the Rocky Mountain Regional Office. Since there is no stream gaging equipment on the Mancos River in MEVE, the flows claimed were estimated from existing gage data.

The headwaters for the Mancos River begin upstream of MEVE on the west side of the La Playa mountains. The River flows in a generally southwestern direction though the town of Mancos, Colorado, passing through several miles of irrigated lands until it reaches the MEVE boundary. The Mancos River flows though four miles of MEVE lands (including slightly over one mile of reserved lands) before passing into the Ute Mountain Ute Indian Reservation, where it eventually drains into the San Juan River. The surrounding landform bordering the river's course begins as a steep mountain stream near the headwaters, which flows into a relatively open, lower gradient valley near the town of Mancos. The river continues into Mancos Canyon (characterized by steep Canyon walls on either side of the river) near the MEVE boundary and continues within the Canyon until well into the Indian Reservation where eventually the Canyon gives way to an open, sparsely vegetated desert-like landform before the River's confluence with the San Juan River.

Gaging stations located on the Mancos River include one upstream of the town of Mancos, CO, operated and maintained by the State of Colorado, and U.S. Geological Survey (USGS) stations located near Towaoc and two stations near Cortez (located near Johnson Canyon, approximately halfway through Mancos Canyon). The Mancos gage is located upstream of the MEVE boundary and is situated within a relatively broad valley. The two stations near Cortez were located upstream and downstream of Johnson Canyon, within Mancos Canyon. The Towaoc gage is found on the River after the Mancos flows out of the Canyon and on to the plains.

The gaging stations available to use to estimate flows in the Mancos River at the MEVE boundary are:

Gage	Period of Record	Drainage Area
Mancos River near Towaoc, CO.	1921 - 1986	526 mi^2
Mancos River near Cortez, CO. (above Johnson Canyon)	1976 - 1979	302 mi^2
Mancos River below Johnson Canyon near Cortez, CO.	1979 - 1982	320 mi^2
Mancos River near Mancos, CO.	1971 - 1985	72 mi^2

Data from the Mancos River near Mancos gaging station, just upstream of MEVE, exists but was not used in this analysis. Between 12 to 20 surface water diversions are located between this gage and the MEVE boundary on the Mancos River. The water right holders diverted 14,638 acre-ft of Mancos River water in 1987 and 12,635 acre-ft in 1988, while earlier years were unavailable at the time the Water Resources Division (WRD) requested this information and WRD staff could not accurately predict the withdrawals. There was also no information available to estimate the percent of water returned to the Mancos as return flow from these diversions. In addition, two tributaries (Mud Creek and Chicken Creek) flow into the river between the gage and the park, with no flow information available for either stream. Chicken Creek is also the conduit for waters released from

Jackson Gulch Reservoir which flow into the Mancos River, and the WRD does not have the reservoir release data. Because of these complexities, the WRD staff determined the Mancos River flow could not be accurately modeled or estimated between the gage near Mancos and the MEVE boundary and therefore, choose not to use data from the Mancos River near Mancos gage.

The two gaging stations denoted as "near Cortez" have short periods of record and similar drainage areas. The gage above Johnson Canyon was moved in 1979 downstream of the Canyon's confluence with the Mancos River. This occurred because of a large runoff event washed out the hydrologic control at this site and the next best site was downstream of the confluence with Johnson Canyon. In 1982, the Ute Indians tribe ceased funding to the USGS for operating the gage (reportedly since a project they were proposing became unfeasible, due to the poor water quality in the Mancos) and the gaging equipment was removed from the site.

For the purposes of determining flow amounts at MEVE, the two sites near Cortez were combined, creating a station with a drainage area of 311 mi^2 ((302 + 320)/2) and a period of record from July, 1979 to September, 1982. The difference in drainage areas between the two sites (18 mi^2) is equal to the drainage area of Johnson Canyon. Justification for combining the two stations is derived from the similarities between the two sites. They were located very close together and essentially the only difference between them is that the runoff of Johnson Canyon is included at the downstream gage. Without having the luxury of a field visit, WRD staff determined that the influence of Johnson Canyon is negligible since its drainage area is small when compared to the total drainage area upstream of the stations. Having combined the stations, a longer period of record was created to compare with the downstream Towaoc gage. For the purposes of this report, this combined station will be noted as Mancos River at Johnson Canyon.

The Towaoc gage has a much longer period of record than the Johnson Canyon station and would normally be more desirable to use in calculating the flows for an upstream site. However, the Johnson Canyon gage was used in this analysis since its surrounding landform was determined to more closely resembles the landform at the MEVE boundary. Data from the USGS stream gaging records indicate that the Mancos River loses water between Johnson Canyon and Towaoc. The WRD argues that the losing stream could be explained in part by water being lost when the Mancos River flows out of the Canyon and into the more open lands where, presumably, there is more opportunity for ground water contribution from the stream. Again, the WRD made this determination by analyzing topographic maps of the region and USGS gaging records, and did not make a site visit.

The first step in estimating a flow regime at the MEVE boundary, was to simulate a long term average monthly flows for the Johnson Canyon station by developing a linear regression equation using the average monthly flows at Towaoc to estimate the average monthly flows at Johnson Canyon during the period of record at the Johnson Canyon gage. After the regression constants were estimated, a yearly flow regime (monthly values) was estimated for Johnson Canyon by using the twelve average monthly values for the period of record at Towaoc (1921 - 1986) in the regression equation. The long term average for the Johnson Canyon site was created because precipitation and runoff values were higher than average during the time period that the Johnson Canyon gage was operating. Annual runoff at Towaoc was 14% higher during 1976 - 1982 than during 1921 - 1984, and precipitation was also probably higher than average (the exact amount is unknown since both precipitation gages at Mancos and Mesa Verde in the area had missing precipitation values, and therefore, no annual amounts were calculated for two years at either station during this period). By developing an annual hydrograph for Johnson Canyon with mean monthly flows simulated from the long term Towaoc record, the amount claimed for MEVE was less than if the 1976 - 1982 period of record was used for Johnson Canyon due to probable higher precipitation during this period.

Once the monthly flows at Johnson Canyon were computed, flows at the upstream boundary were estimated by a simple area weighting procedure. Mean monthly flows at Johnson Canyon were multiplied by the ratio of the drainage area above MEVE to the drainage area above Johnson Canyon (ratio = 0.5) to obtain monthly flows at MEVE. Again, the Johnson Canyon record was used since that site more closely resembles the geomorphology at the MEVE boundary and no losses to the ground water are assumed to occur within the Mancos Canyon, such as the losses that seem to occur between Johnson Canyon and Towaoc.

Using this area-weighting method assumes that the efficiency of the watershed to deliver water to a stream for the area above Johnson Canyon is the equal to the efficiency of the area above the MEVE boundary. This is probably not the case (usually, watersheds are more efficient in the headwaters and decrease as the total contributing area increases), but adequate information does not exist to estimate the watershed efficiency above MEVE. As a result, the estimates for the monthly flow values shown here are probably low since the were derived using a smaller watershed efficiency coefficient.

The specifics of these above-described calculations are as follows:

Monthly flow values (acre-feet) were paired for the seven year period of record for the Johnson Canyon gage with the corresponding months for the Towaoc gage, resulting in 74 monthly flow values. A linear regression model was run on the data, using data from the Towaoc gage as the independent variable (X) to predict the flows at Johnson Canyon (Y). A strong relationship exists between the two, shown by a correlation coefficient of 0.9966. The data and selected statistical results of the linear regression are shown on the following page:
Mean monthly flows for the Mancos River near Towaoc, CO (acre-feet)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976										640	938	1589
1977	893	728	409	389	402	323	8.8	0.65	0	294	388	793
1978	6.9	68	75	191	465	4838	7281	11151	6391	443	0.42	209
1979	527	1150	1269	1651	1394	6938	17359	33588	*	6486	1309	209
1980	237	488	340	1377	3164	4467	19646	27055	19283	2254	479	1999
1981	1152	1137	938	594	561	875	949	146	207	4188	424	846
1982	2539	1101	814	722	1402	3370	5697	12762	4233	690	4835	4106

* value not used to correspond with missing value from Johnson Canyon gage

Mean monthly flows for the Mancos River at Johnson Canyon (acre-feet)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976										750	1227	847
1977	942	802	484	505	552	504	191	66	3.5	245	258	384
1978	51	172	194	172	426	4796	7898	10665	6899	943	379	497
1979	722	1292	1143	1523	1283	6811	18299	31904	**	6837	1958	784
1980	666	728	924	1317	2959	4487	18885	26035	19545	2438	1051	1952
1981	1254	1168	1043	843	698	974	1231	477	663	5225	881	1158
1982	2473	1295	834	706	1307	3259	6034	12397	4715	1341	5355	4407

** value missing

STATISTICS RESULTS

Regression Equation (Y = mX + b) = Y = 0.9669 (X) + 221.61

Where:

Y = monthly flow values at Johnson Canyon
X = monthly flow values at Towaoc

Simple r^2 = 0.9966
Adjusted r^2 = 0.9965

Prob. level (for slope (m) = 0) = 0.000

n = 74

Since a strong relation exists between the Towaoc and Johnson Canyon gages during the seven year period, WRD staff assumed that this relationship holds true over the long term. The long term mean monthly flows were calculated for the Johnson Canyon gage by applying the above-cited regression equation to the period of record mean monthly flows for the Towaoc gage, creating mean monthly flows at Johnson Canyon for 1921 - 1986.

Mean monthly flows for Towaoc gage, 1921 - 1986 (acre-feet)

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1660	1012	861	799	1345	3382	7616	11252	5236	1906	1783	1547

Computed mean monthly flows for Johnson Canyon, 1921 - 1986 (acre-feet)

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1827	1200	1054	994	1522	3492	7586	11101	5284	2064	1946	1717

After the mean monthly flows for Jonson Canyon were computed, the flow regime for each month at the MEVE boundary was computed by the following formula:

Flow at MEVE = Flow at Johnson Canyon * 157 mi^2/311 mi^2 or
= Johnson Canyon * 0.5

From this equation, the following monthly values (acre-feet) were calculated for flows at MEVE on the Mancos River:

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	913	600	527	497	761	1745	3793	5551	2642	1032	973	859
(cfs)	15	10	8.6	8.1	14	28	64	90	44	17	16	14

for a total of 19,894 acre-feet/year.

March 8, 1990

Flow Calculations for Reserved Rights Claims for the Mancos River, MEVE:

Month	Acre-ft		cfs		USE ↓	↓
October	913	922	15	14.8	15	922
November	600	595	10	10.1	10	595
December	527	529	8.6	8.6	9	553
January	497	498	8.1	8.1	8	492
February	761	778	14	13.7	14	778
March	1745	1722	28	28.9	28	1722
April	3793	3808	64	63.8	64	3808
May	5551	~~5256~~ 5533	90	90.3	90	5533
June	2642	2618	44	44.4	44	2618
July	1032	1045	17	16.8	17	1045
August	973	984	16	15.8	16	984
September	859	833	14	14.4	14	833
						19,883 ac-ft
Total	19,893	acre-ft/year				
	~~19868~~ 19845					

1 ~~cfs~~ x $\frac{1.9835 \text{ ac-ft/day}}{1 \text{ cfs}}$ x ~~X~~ days =

National Park Service Computation of
Future Consumptive Water Needs for Mesa Verde National Park

Summary Prepared by William R. Hansen
Hydrologist
May 9, 1996

Most water used for consumptive purposes in Mesa Verde National Park (MEVE) is imported via a 26-mile pipeline from the West Mancos River or Jackson Gulch Reservoir. The United States is authorized to appropriate 120 acre-feet from the West Mancos River under the decreed water right. This amount is inadequate to meet future consumptive water use needs for MEVE.

The theoretical capacity (carrying capacity) of MEVE will be reached in the year 2104. Based upon this capacity and a linear projection, annual visitation will be 3.84 million in 2104. Future consumptive water use was determined by subtracting the 1989 actual use from future consumptive water needs for four categories of use: visitor use at concessioner (ARA) facilities, visitor use at National Park Service (NPS) facilities, NPS and ARA staff use, and miscellaneous administrative uses.

Future Water Use At ARA Facilities

Most water used at concessionaire (ARA) facilities is used at Morefield Campground, Morefield Laundry and Showers, Navajo Hill Service Station and Cafe, and Navajo Hill Lodge. Present water use and expansion plans were considered to estimate future use, including an expansion of Navajo Lodge from 150 to 200 rooms.

U.S. Department of Health, Education, and Welfare (1978) and the U.S. Environmental Protection Agency (1982) estimates were used to compute future water use at all facilities. Table 1 shows the estimated future consumptive use for Morefield Campground, Morefield Laundry and Showers, Navajo Hill Service Station and Cafe, and Navajo Hill Lodge.

Table 1. Future Consumptive Use for Concessionaire Facilities
Mesa Verde National Park

Concessionaire Site	Future Consumptive Water Use (ac-ft)
Morefield Campground	18.3
Morefield Laundry/Showers	21.9
Navajo Hill Cafe	1.6
Navajo Hill Cafe	11.2
TOTAL	**53.0**

The future annual consumptive water use at concessionaire facilities in 2104 is estimated to be 53.0 acre-feet.

Future Water Use By Visitors at NPS Facilities

Water use (sanitary and drinking water) by MEVE visitors was considered to occur at the visitor center and rest areas and excluded use at concessionaire facilities. Future water use was computed by subtracting present campground and visitor use from the projected water use of 3.84 million visitors in 2104. The 1989 visitation at MEVE was 600,045 people. The future annual consumptive water use by visitors in 2104 is estimated to be 44.5 acre-feet

Future Water Use By Staff At MEVE

Estimated visitation for 2104 is approximately five times the 1989 visitation. It was assumed that the number of interpreters, seasonals, and concessionaire staff required to provide for visitor services and interpretation would also increase fivefold. Table 2 shows an estimate of staff water use by MEVE and the concessionaire (ARA) for 1989. The 1989 staff use was 3,967,860 gallons or 12.2 acre-feet. The future annual consumptive water use needs for MEVE and ARA staff was obtained by multiplying 1989 staff use by five and then subtracting the 1989 use. The future annual consumptive water use in 2104 is estimated to be 48.8 acre-feet.

Future Water Needs for Miscellaneous Uses

Miscellaneous administrative uses include pipeline maintenance (flow releases to prevent freezing), road construction and dusting, revegetation and watershed restoration, livestock use, and fire suppression. The amounts of water required for these purposes are minimal, difficult to quantify, occur on an irregular basis, and were, therefore, assumed constant until the year 2104. No additional water is needed for future consumptive use for miscellaneous uses.

Total Future Consumptive Use Needs

Based upon these assumptions, future consumptive use needs at MEVE in the year 2104 are estimated to be 146 acre-feet. In 1989, MEVE used 115 acre-feet of the 120 acre-foot decreed right from the West Mancos River and Jackson Gulch Reservoir. The remaining 5 acre-feet is available for future use at MEVE. Therefore, the claim for a Federal reserved water right for future consumptive use is adjusted downward 5 acre-feet, resulting in a claim for 141 acre-feet per year.

References

U.S. Dept. of Health, Education, and Welfare. 1978. Environmental Health Practice in Recreational Areas.

U.S. Environmental Protection Agency. 1982. Manual of Individual Water Supply Systems.

Table 2. Estimates of 1989 NPS and ARA Staff Water Use
Mesa Verde National Park

NPS Facility	User Type	#of Users	Days/User	GPCD[1]	Gals/Yr.
Park Headqtrs. and Museum	Permanent Seasonal Jr. Fellowship	24 2 1	261 122 90	15 15 15	93,960 3,660 1,350
Ruins Road, Far View & Entrance District Housing	Permanent Seasonal	46 123	365 182	75 75	1,264,725 1,678,950
Ruins Road Maint. Area	Permanent	16	261	50	208,800
Morefield Ranger Station	Permanent	1	261	15	3,915
Entrance Gate	Seasonal	2	261	15	7,830
TOTAL					**3,263,190**
ARA Facility					**Gals/Yr.[2]**
Mud Flats					128,330
Navajo Hill Housing					576,340
TOTAL					**704,670**

[1] Values of water use taken from the Manual of Individual Water Supply Systems published by the U.S. Environmental Protection Agency in 1982, Table 1, pp. 15-16.

[2] Quantities taken directly from a January 25, 1989 letter from Don McAnnally, Utility Systems Operator, MEVE to Gilbert Johnson, General Manager, ARA Mesa Verde Co.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
MESA VERDE NATIONAL PARK
50 Year Water Use Projection Worksheet

Water Use Information Data, provided by Harold Welty (Mesa Verde, Water Facilities Manager)(6/10/96)
Visitation data provided by Linda Towle (MEVE NR Branch Chief), via facsimile on 6/7/96

Projected Annual Water Use Values

Present Annual Water Use (i.e., point to start projection from) (ac-ft)	50-Yr Projected Increase In Annual Water Use (Year 2045) (at 2% growth) (ac-ft)	(at 3% growth) (ac-ft)	50-Yr Projected Estimate of Total Annual Water Use (Year 2045) (at 2% growth) (ac-ft)	(at 3% growth) (ac-ft)	Increase in 50-Yr Projected Total Annual Water Use From Decreed Right (of 120 ac-ft) (at 2% growth) (ac-ft)	(at 3% growth) (ac-ft)
92	**92**	138	**184**	230	**64**	110
101	101	152	202	253	82	133
120	120	180	240	300	120	180

	Annual Water Use (ac-ft)
1995 Use (w/ new Plant):	92
Maximum POR Use:	101
Approp. Decreed Right:	120

Regression Results for 50-year VISITATION Projection:

Years (Independ.) vs. Total Annual Visits (Depend.)		
Linear Regression Output: POR = 1926 thru 1995		
Constant	-24297309.42	
Std Err of Y Est	77803.23	
	0.92	
No. of Observations	70	
Degrees of Freedom	68	
X Coefficient(s)	12551.73	
Std Err of Coef.	460.24	
Predicted Annual Increase In Visitation:		12,552
Predicted Annual Visitation In Year 2045:		1,370,977
Pred. Annual Increase In Visits (% of 1995):		1.84%

Years (Independ.) vs. Total Annual Visits (Depend.)		
Linear Regression Output: POR = 1984 thru 1993		
Constant	-16919731.79	
Std Err of Y Est	76722.85	
	0.12	
No. of Observations	10	
Degrees of Freedom	8	
X Coefficient(s)	8843.18	
Std Err of Coef.	8446.91	
Predicted Annual Increase In Visitation:		8,843
Predicted Annual Visitation In Year 2045:		1,164,563
Pred. Annual Increase In Visits (% of 1993):		1.33%
Pred. Annual Increase In Visits (% of 1995):		1.34%

MESA VERDE NATIONAL PARK
Total Annual Visitation Data
(# of visits / year)

(year)	(visits)	(year)	(visits)
1926	11,600	**1961**	227,658
1927	12,005	**1962**	262,250
1928	16,872	**1963**	325,306
1929	14,542	**1964**	344,444
1930	16,741	**1965**	378,278
1931	17,896	**1966**	423,366
1932	15,886	**1967**	434,983
1933	16,244	**1968**	449,762
1934	21,859	**1969**	513,771
1935	21,787	**1970**	527,207
1936	25,580	**1971**	518,162
1937	28,165	**1972**	546,286
1938	31,239	**1973**	482,351
1939	32,843	**1974**	445,390
1940	36,172	**1975**	614,524
1941	42,406	**1976**	676,935
1942	13,045	**1977**	664,894
1943	4,621	**1978**	654,166
1944	5,561	**1979**	474,477
1945	12,994	**1980**	540,826
1946	39,843	**1981**	588,847
1947	52,975	**1982**	602,968
1948	59,362	**1983**	604,115
1949	78,024	**1984**	516,865
1950	88,184	**1985**	656,271
1951	99,309	**1986**	658,887
1952	105,700	**1987**	747,395
1953	136,123	**1988**	772,183
1954	150,330	**1989**	600,045
1955	161,202	**1990**	611,375
1956	186,808	**1991**	678,075
1957	193,927	**1992**	742,080
1958	201,345	**1993**	666,056
1959	217,357	**1994**	699,644
1960	225,708	**1995**	680,833

Note 1: In previous consumptive use analyses (e.g., ZION, ROMO, WACA), NPS-WRB has determined a typical rate of the annual growth in visitation to be in the 2%-3% range. The selected 2% growth rate is considered a conservative selection.

Note 2: MEVE reports that the park changed their method of computing visitation in 1994. Non-recreation were included in reported visits (from 1994 onward)

Note 3: TOTAL FUTURE WATER NEED IS ESTIMATED AT 70 ACRE-FEET. This value was determined by using the reported 1995 wate use of 92 af, and growing it at a rate of 2% (commensurate with the expected 2% rate of growth in visitation) to a expected value of 184 af in the year 2045. The Decreed Right is for 120 af; 184-120 = 64 af. It is assumed that the parks planned cultural center will increase water needs by 6 af.
Combining the predicted 64 af need with the 6 af need produces the requested 70 af future water need.

Visitation data provided by Linda Towle (MEVE NR Branch Chief), via facsimile on 6/7/96

Water Use Projections

Projection I (goto row 76 to view data)
Projection I: 120 acft Present Use estimate, increased by 1.84% annually
Projection II: 120 acft Present Use estimate, increased by 2% annually
Projection III: 120 acft Present Use estimate, increased by 3% annually
Projection IV: 92 acft Present Use estimate, increased by 1.84% annually
Projection V: 92 acft Present Use estimate, increased by 2% annually
Projection VI: 92 acft Present Use estimate, increased by 3% annually
Projection VII: 101 acft Present Use estimate, increased by 1.84% annually
Projection VIII: 101 acft Present Use estimate, increased by 2% annually
Projection IX: 101 acft Present Use estimate, increased by 3% annually

Years (Independ.) vs. Total Annual Visits (Depend.)		
Linear Regression Output: POR = 1926 thru 1995		
Constant	-24297309.4	
Std Err of Y Est	77803.23451	
No. of Observations	70	
Degrees of Freedom	68	
X Coefficient(s)	12551.72944	
Std Err of Coef.	460.2412447	
Predicted Annual Increase in Visitation:		12,552
Predicted Annual Visitation in Year 2045:		
Pred. Annual Increase in Visits (% of 1995):		1.84%

Years (Independ.) vs. Total Annual Visits (Depend.)		
Linear Regression Output: POR = 1984 thru 1993		
Constant	-16919731.8	
Std Err of Y Est	76722.84518	
No. of Observations	10	
Degrees of Freedom	8	
X Coefficient(s)	8843.175757	
Std Err of Coef.	8446.90725	
Predicted Annual Increase in Visitation:		8,843
Predicted Annual Visitation in Year 2045:		1,164,563
Pred. Annual Increase in Visits (% of 1993):		1.33%
Pred. Annual Increase in Visits (% of 1995):		1.34%

Water Use Projections (for Present Use (e.g., 1996), assume = 120, 92 & 101 ac-ft)

Date	Actual Visits	POR: 1984-93 Regressed Visits	Projection I (120@1.84%) (ac-ft)	Projection II (120@2%) (ac-ft)	Projection III (120@3%) (ac-ft)	Projection IV (92@1.84%) (ac-ft)	Projection V (92@2%) (ac-ft)	Projection VI (92@3%) (ac-ft)	Projection VII (101@1.84%) (ac-ft)	Projection VIII (101@2%) (ac-ft)	Projection IX (101@3%) (ac-ft)
1926	11,600	112,225									
1927	12,005	121,068									
1928	16,872	129,911									
1929	14,542	138,754									
1930	16,741	147,597									
1931	17,896	156,441									
1932	15,886	165,284									
1933	16,244	174,127									
1934	21,859	182,970									
1935	21,787	191,813									
1936	25,580	200,656									
1937	28,165	209,500									
1938	31,239	218,343									
1939	32,843	227,186									
1940	36,172	236,029									
1941	42,406	244,872									
1942	13,045	253,716									
1943	4,621	262,559									
1944	5,561	271,402									
1945	12,994	280,245									
1946	39,843	289,088									
1947	52,975	297,931									
1948	59,362	306,775									
1949	78,024	315,618									
1950	88,184	324,461									
1951	99,309	333,304									
1952	105,700	342,147									
1953	136,123	350,990									
1954	150,330	359,834									
1955	161,202	368,677									
1956	186,808	377,520									
1957	193,927	386,363									
1958	201,345	395,206									
1959	217,357	404,050									
1960	225,708	412,893									
1961	227,658	421,736									
1962	262,250	430,579									
1963	325,306	439,422									
1964	344,444	448,265									
1965	378,278	457,109									
1966	423,366	465,952									
1967	434,983	474,795									
1968	449,762	483,638									
1969	513,771	492,481									
1970	527,207	501,324									
1971	518,162	510,168									
1972	546,286	519,011									
1973	482,351	527,854									
1974	445,390	536,697									
1975	614,524	545,540									
1976	676,935	554,384									
1977	664,894	563,227									
1978	654,166	572,070									
1979	474,477	580,913									
1980	540,826	589,756									
1981	588,847	598,599									
1982	602,968	607,443									
1983	604,115	616,286									
1984	518,865	625,129									
1985	656,271	633,972									
1986	658,887	642,815									
1987	747,395	651,658									
1988	772,183	660,502									
1989	600,045	669,345									
1990	611,375	678,188									
1991	678,075	687,031									
1992	742,080	695,874									
1993	666,056	704,717									
1994	699,644	713,561									
1995	680,833	722,404	120	120	120	92	92	92	101	101	101
1996		731,247	122	122	124	94	94	95	103	103	104
1997		740,090	124	125	127	95	96	98	105	105	107
1998		748,933	127	127	131	97	98	100	107	107	110
1999		757,777	129	130	134	99	99	103	108	109	113
2000		766,620	131	132	138	100	101	106	110	111	116
2001		775,463	133	134	142	102	103	109	112	113	119
2002		784,306	135	137	145	104	105	111	114	115	122
2003		793,149	138	139	149	106	107	114	116	117	125
2004		801,992	140	142	152	107	109	117	118	119	128
2005		810,836	142	144	156	109	110	120	120	121	131
2006		819,679	144	146	160	111	112	122	121	123	134
2007		828,522	146	149	163	112	114	125	123	125	137
2008		837,365	149	151	167	114	116	128	125	127	140
2009		846,208	151	154	170	116	118	131	127	129	143
2010		855,051	153	156	174	117	120	133	129	131	146
2011		863,895	155	158	178	119	121	136	131	133	149
2012		872,738	158	161	181	121	123	139	133	135	153
2013		881,581	160	163	185	122	125	142	134	137	156
2014		890,424	162	166	188	124	127	144	136	139	159
2015		899,267	164	168	192	126	129	147	138	141	162
2016		908,111	166	170	196	128	131	150	140	143	165
2017		916,954	169	173	199	129	132	153	142	145	168
2018		925,797	171	175	203	131	134	155	144	147	171
2019		934,640	173	178	206	133	136	158	146	149	174
2020		943,483	175	180	210	134	138	161	147	152	177
2021		952,326	177	182	214	136	140	164	149	154	180
2022		961,170	180	185	217	138	142	167	151	156	183
2023		970,013	182	187	221	139	144	169	153	158	186
2024		978,856	184	190	224	141	145	172	155	160	189
2025		987,699	186	192	228	143	147	175	157	162	192
2026		996,542	188	194	232	144	149	178	159	164	195
2027		1,005,385	191	197	235	146	151	180	160	166	198
2028		1,014,229	193	199	239	148	153	183	162	168	201
2029		1,023,072	195	202	242	150	155	186	164	170	204
2030		1,031,915	197	204	246	151	156	189	166	172	207
2031		1,040,758	199	206	250	153	158	191	168	174	210
2032		1,049,601	202	209	253	155	160	194	170	176	213
2033		1,058,445	204	211	257	156	162	197	172	178	216
2034		1,067,288	206	214	260	158	164	200	173	180	219
2035		1,076,131	208	216	264	160	166	202	175	182	222
2036		1,084,974	211	218	268	161	167	205	177	184	225
2037		1,093,817	213	221	271	163	169	208	179	186	228
2038		1,102,660	215	223	275	165	171	211	181	188	231
2039		1,111,504	217	226	278	166	173	213	183	190	234
2040		1,120,347	219	228	282	168	175	216	185	192	237
2041		1,129,190	222	230	286	170	177	219	186	194	240
2042		1,138,033	224	233	289	172	178	222	188	196	243
2043		1,146,876	226	235	293	173	180	224	190	198	246
2044		1,155,719	228	238	296	175	182	227	192	200	249
2045		1,164,563	230	240	300	177	184	230	194	202	253
2046		increase from present:	110	120	180	85	92	138	93	101	152
2047		total use in 2045:	230	240	300	177	184	230	194	202	253
2048			Projection I (120@1.84%) (ac-ft)	Projection II (120@2%) (ac-ft)	Projection III (120@3%) (ac-ft)	Projection IV (92@1.84%) (ac-ft)	Projection V (92@2%) (ac-ft)	Projection VI (92@3%) (ac-ft)	Projection VII (101@1.84%) (ac-ft)	Projection VIII (101@2%) (ac-ft)	Projection IX (101@3%) (ac-ft)
2049											
2050											
2051											

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
MESA VERDE NATIONAL PARK
50 Year Water Use Projection Worksheet

Water Use Information Data, provided by Harold Welty (Mesa Verde, Water Facilities Manager)(6/10/96)
Visitation data provided by Linda Towle (MEVE NR Branch Chief), via facsimile on 6/7/96

Projected Annual Water Use Values

Present Annual Water Use (i.e., point to start projection from) (ac-ft)	50-Yr Projected Increase In Annual Water Use (at 2% growth) (ac-ft)	(at 3% growth) (ac-ft)	(Year 2045) 50-Yr Projected Estimate of Total Annual Water Use (at 2% growth) (ac-ft)	(at 3% growth) (ac-ft)	Increase in 50-Yr Projected Total Annual Water Use From Decreed Right (of 120 ac-ft) (at 2% growth) (ac-ft)	(at 3% growth) (ac-ft)
92	92	138	184	230	64	110
101	101	152	202	253	82	133
120	120	180	240	300	120	180

	Annual Water Use (ac-ft)
1995 Use (w/ new Plant):	92
Maximum POR Use:	101
Approp. Decreed Right:	120

MEVE Visitation Data

Total Annual Visits	
1984	516,865
1985	656,271
1986	658,887
1987	747,395
1988	772,183
1989	600,045
1990	611,375
1991	678,075
1992	742,080
1993	666,056
1994	699,644
1995	680,833

Different Method of Computing

Regression Results for 50-year VISITATION Projection

Years (Independ.) vs. Total Annual Visits (Depend.)		
Linear Regression Output: POR = 1926 thru 1995		
Constant	-24297309.42	
Std Err of Y Est	77803.23	
	0.92	
No. of Observations	70	
Degrees of Freedom	68	
X Coefficient(s)	12551.73	
Std Err of Coef.	460.24	
Predicted Annual Increase In Visitation:		12,552
Predicted Annual Visitation In Year 2045:		1,370,977
Pred. Annual Increase In Visits (% of 1995):		1.84%

Current Visitation 699,644
Compared to 3.84 million in 2104

Years (Independ.) vs. Total Annual Visits (Depend.)		
Linear Regression Output: POR = 1984 thru 1993		
Constant	-16919731.79	
Std Err of Y Est	76722.85	
	0.12	
No. of Observations	10	
Degrees of Freedom	8	
X Coefficient(s)	8843.18	
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Predicted Annual Increase In Visitation:		8,843
Predicted Annual Visitation In Year 2045:		1,164,563
Pred. Annual Increase In Visits (% of 1993):		1.33%
Pred. Annual Increase In Visits (% of 1995):		1.34%

2% similar to ROMO, WACA & ZION

Growth for cultural center

Need 64 AF over 120
+ 6 AF for cultural center

Total future need 70 AF

MEVEFUTR.WB2

06-07-1996: cover page: meve visitation figures

U.S. Department of the Interior
National Park Service
Mesa Verde National Park
Colorado 81330

Fax: (970) 529-4498
Commercial: (970) 529-4465

TO: Andy Hunzinger

From: Linda Towle

Subject: MEVE Visitation Figures

Number of pages to follow: 5

Date: 6/7/96 Time: 8:00 AM

Remarks or special instructions:

MESA VERDE VISITOR STATISTICS

YEAR	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL	% +/
1990	3926	4232	12,856	25,531	56,647	111,215	142,952	136,791	69,788	33,157	9583	4801	611,375	+ 2%
1991	3885	6001	12,317	22,225	61,574	96,769	173,774	158,191	80,823	45,855	11,434	5227	678,075	+10%
1992	5090	6545	14,614	31,207	67,353	136,273	172,012	158,503	86,893	48,508	10,097	4925	742,080	+ 9%
1993	3768	4666	13,283	28,575	64,748	113,462	150,932	142,614	79,541	48,728	10.015	5724	666,056	-10%
1994	6126	3947	18,802	26,196	66,517	119,260	159,407	147,527	83,579	51,733	9798	6752	699,644	+2.3%
1995	4938	6710	16,568	27,605	64,167	109,197	171,053	137,981	82,474	46,707	10,452	2981	680,833	-2.7%
1996	4486	5373	16,284	28,480										
1997														
1998														
1999														
2000														
2001														
2002														
2003														
2004														
2005														
2006														
2007														
2008														
2009														
2010														

* Due to a change in computations, 1994 totals include the non-recrecreation figures.

** Due to a congressional shutdown the park was closed from Nov. 14-19, 1995, and Dec. 16, 1995 - Jan 6, 1996.

06/07/96 08:04 303 529 4498 MESA VERDE N P 002

YEAR	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
1969	1062	510	3023	12,311	31,055	98,957	138,276	147,654	54,004	17,839	5079	3001	513,771
1970	2340	2740	6296	9266	33,601	104,104	145,829	140,967	58,042	16,817	4991	2214	527,207
1971	1741	2220	6553	16,041	34,408	98,249	137,558	140,970	59,014	16,561	4168	979	518,162
1972	1414	2488	7806	15,536	44,525	115,038	137,567	135,747	60,453	21,341	2393	1978	546,286
1973	2369	2013	5242	10,321	37,278	97,609	122,566	124,109	51,202	21,655	6718	1769	482,351
1974	346	477	3188	10,683	39,988	80,519	111,229	121,955	48,288	19,139	6599	2979	445,390
1975	2042	1999	6481	11,417	47,326	119,782	167,283	154,781	67,249	26,687	6643	2839	614,524
1976	2742	2966	7341	16,592	58,539	131,829	165,456	173,308	74,404	29,314	8806	5635	676,935
1977	1792	3520	8063	19,215	58,964	121,609	173,442	152,461	77,015	37,485	8160	3168	664,894
1978	2304	2016	8422	14,763	57,218	116,289	174,671	153,792	79,559	35,905	7387	1840	654,166
1979	1664	3504	6368	12,209	1757	87,799	123,824	123,628	70,939	34,938	6375	3136	474,477
1980	1488	1152	3411	10,747	49,804	98,701	131,609	133,424	68,558	30,879	7245	3808	540,826
1981	3424	1808	3200	12,104	65,443	108,301	141,882	130,318	77,007	35,166	7378	2816	588,847
1982	1200	1872	5552	13,090	57,751	117,150	146,716	141,005	73,581	32,393	9010	3648	602,968
1983	3584	3200	7680	14,620	65,574	108,195	141,833	130,249	79,709	38,707	8364	2400	604,115
1984	2528	3078	8663	14,269	47,117	92,120	117,588	120,858	72,038	26,087	7636	4883	516,865
1985	5346	4628	10,218	20,971	65,951	117,501	155,297	139,039	82,706	36,328	11,246	7060	656,271
1986	7497	4799	16,430	20,449	66,006	111,035	154,908	147,714	81,426	33,974	7980	6670	658,887
1987	4386	4441	9726	23,938	75,867	125,223	165,166	156,573	101,517	45,013	12,266	4450	747,395
1988	3753	5577	14,533	26,583	79,298	128,602	172,929	164,245	108,421	52,549	10,617	5076	772,183
1989	2990	3401	14,593	21,683	57,557	111,661	128,270	134,791	70,471	37,899	10,457	6272	600,045

06/07/96 08:04 303 529 4498 MESA VERDE N P 003

YEAR	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
1948	153	82	156	796	4754	9904	14,190	18,325	8003	2568	326	105	59,362
1949	13	16	186	712	5420	12,923	20,229	23,947	11,334	2419	662	163	78,024
1950	83	201	612	2078	6747	15,572	22,695	24,593	10,993	3539	740	331	88,184
1951	125	201	772	2127	6328	18,250	23,155	31,199	13,480	2819	758	95	99,309
1952	40	97	246	1364	7393	18,432	28,061	33,964	10,718	4788	519	78	105,700
1953	214	779	1953	2611	9216	25,547	32,125	37,222	17,844	6379	1516	717	136,123
1954	1055	1536	1773	4616	10,015	25,097	34,357	40,909	16,778	10,003	2855	1336	150,330
1955	1108	666	1998	4335	11,883	25,921	38,813	43,594	19,624	9192	2871	1298	161,202
1956	1523	796	3003	6160	12,977	32,037	44,612	51,067	21,676	8136	2873	1948	186,808
1957	891	1281	2981	3710	12,589	34,837	49,115	56,730	21,408	6818	1952	1615	193,927
1958	1195	1897	2370	4534	14,165	34,338	53,585	60,055	17,864	7123	2631	1588	201,345
1959	1018	871	3468	5095	15,985	36,675	56,275	64,601	25,257	5385	1786	941	217,357
1960	535	533	1992	8247	16,093	36,549	59,903	63,075	24,005	9787	3703	1286	225,708
1961	1529	1272	2373	5321	15,868	39,749	59,486	64,977	24,556	9127	2299	1101	227,658
1962	1556	1615	2385	7515	16,323	46,143	65,907	71,542	31,040	11,768	3949	2507	262,250
1963	1322	2028	3656	9100	18,448	59,491	81,401	89,326	35,428	16,681	5005	3420	325,306
1964	2284	2419	4409	7154	21,215	67,157	87,471	95,826	37,533	13,648	2784	2544	344,444
1965	1801	1570	3022	6207	20,435	71,096	101,891	112,490	39,236	13,743	4611	2176	378,278
1966	1599	1663	3849	9950	26,916	79,331	112,422	121,852	44,369	14,094	4832	2489	423,366
1967	1753	2150	7222	10,414	25,554	82,493	117,401	122,550	43,764	16,231	4493	958	434,983
1968	1203	2057	4328	9948	25,674	88,189	120 073	132,190	45,646	16,324	3196	934	449,762

06/07/96 08:06 303 529 4498 MESA VERDE N P 004

YEAR	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
1927	0	0	0	16	674	1701	3588	4288	1093	611	34	0	12,005
1928	0	0	0	51	600	2361	4831	5933	2339	677	80	0	16,872
1929	0	0	0	160	506	2776	4392	4307	1619	675	107	0	14,542
1930	0	0	0	216	595	2809	4490	5263	2501	667	200	0	16,741
1931	0	0	0	226	1408	3273	4390	5403	2436	679	73	8	17,896
1932	0	11	9	105	773	2490	4671	4664	2277	652	224	9	15,886
1933	10	0	48	125	707	2567	4638	5190	2015	631	152	161	16,244
1934	47	171	152	597	1482	3026	5623	6859	2573	907	319	103	21,859
1935	108	55	68	254	1186	3425	5305	7569	2536	993	159	129	21,787
1936	136	79	158	458	1866	3573	6480	8380	3160	817	427	46	25,580
1937	30	16	100	525	2148	4561	6970	9010	3521	985	260	39	28,165
1938	38	47	84	313	1815	4508	8406	10,465	3951	1334	193	85	31,239
1939	39	15	85	542	2909	4760	8159	10,244	3881	1486	440	283	32,843
1940	40	48	345	861	2675	5243	9127	11,793	4107	1353	415	165	36,172
1941	51	89	106	443	2697	6552	10,857	14,857	4494	1462	701	97	42,406
1942	69	70	71	190	925	2765	3065	3499	1696	450	238	7	13,045
1943	51	114	58	122	500	566	912	1233	604	256	153	52	4,621
1944	41	45	59	186	339	704	1111	1634	793	364	203	82	5,561
1945	19	38	48	132	605	1410	1858	3900	2904	1415	497	168	12,994
1946	106	191	348	1108	3175	6043	9758	11,910	5288	1617	166	133	39,843
1947	62	160	409	869	4265	8200	13,177	17,033	6134	2136	347	183	52,975

06/07/96 08:07 303 529 4498 MESA VERDE N P 005

Mesa Verde Visitor Statistics

YEAR	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
1906						4	0	18	5				NO RECORD
1907				3		3	16	34	13	4			NO RECORD
1908										5			80
1909													165
1910													250
1911													206
1912													230
1913							130						280
1914													502
1915													663
1916													1,385
1917													2,223
1918							385	917	271				2,058
1919										84	0	0	2,287
1920													2,890
1921													3,003
1922							1247		560				4,251
1923		0	0	0		727	1613	1672			70		5,236
1924					279					213			7,109
1925					549	1157	2515	3265	948	307		0	9,034
1926	0	0	0	67	363	1572	3310	4246	1487	500	55	0	11,600

06/07/96 08:08 303 529 4498 MESA VERDE N P 006

Existing Consumptive Water Use and Estimated Future Consumptive Water Needs for Mesa Verde National Park

Prepared by Mary Hermes
Research Associate
March 14, 1990

Edited by William R. Hansen
Hydrologist
May 9, 1996

Most water used for consumptive purposes in Mesa Verde National Park (MEVE) is imported via a 26-mile pipeline which provides water either directly from the West Mancos River or indirectly from the West Mancos River through the Jackson Gulch Reservoir. The amount of water the United States is authorized to appropriate from the West Mancos River under a decreed water right (120 acre feet) may not be adequate to meet future consumptive water needs for MEVE. Estimates of future consumptive water needs for MEVE have been made to determine the amount of water to be claimed for future consumptive water needs under a Federal reserved water right.

Future consumptive water use was estimated by subtracting the present water use from projected water demands for four categories of use: visitor use at concessioner (ARA) facilities, visitor use at National Park Service (NPS) facilities, staff use, and miscellaneous administrative uses such as pipeline maintenance and fire suppression.

The theoretical capacity of MEVE was determined from information contained in the MEVE General Managément Plan (1979) and information provided by Michael Snyder of the Rocky Mountain Region (RMR) Office. According to the GMP, the hourly capacity at the three major use areas in the park is 1,730 visitors. A 1987 visitor survey indicates an average length-of-stay at MEVE of 4.29 hours (memo from Michael Snyder, RMR Division of Planning and Compliance, September 15, 1989. MEVE's persons-at-one-time (PAOT) theoretical capacity can then be computed as follows:

(1,730 visitors/hour) (4.29 hours) = 7,422 visitors

During the summer season, the expected visitor turnover rate is about 3, resulting in a daily theoretical capacity of 22,226 visitors per day (7,422 visitors x 3).

Monthly visitation figures indicate that since 1977, July has normally been the peak visitation month at MEVE. Therefore, MEVE's theoretical capacity will likely be reached during July and is computed as 689,000 visitors/month [(22,226 visitors/day)(31 days/month)].

A linear projection of July visitation for 1979 to 1988 was used to estimate the year which visitation reaches the monthly theoretical capacity. A ten-year period of record is commonly used by the RMR Office when making linear projections for expected visitation at parks (Mike Snyder, pers. comm.). From this projection, MEVE will reach the theoretical monthly capacity of 689,000 people in the year 2104.

A linear projection provided by the RMR Office and is shown in Figure 1. This relationship was used to determine that the annual visitation would be 3.84 million visitors in the year 2104. Future consumptive water uses for each category were computed using 3.84 million visitors.

FUTURE WATER USE AT ARA FACILITIES

ARA-run visitor facilities at MEVE include Spruce Tree Terrace, Wetherill Snack Bar, Navajo Hill Service Station and Cafe, Navajo Hill Lodge, Morefield Campground, Morefield Store, Morefield Laundry and Showers, and Morefield Service Station. Present water used and expansion plans were considered at ARA facilities to estimate future use.

In 1987 and 1988, ARA used 9.0 and 7.8 million gallons, excluding staff use at residential quarters. Ninety-percent of the water used in 1987 and 88% of the water use in 1988 was associated with Morefield Campground, Morefield Laundry and Showers, Navajo Hill Service Station and Cafe, and Navajo Hill Lodge (McAnnally, 1988 and 1989). Most water use at ARA is associated with these four facilities, therefore, future consumptive use was assumed to be minimal for Spruce Tree Terrace, Wetherill Snack Bar, Morefield Store and Service Station.

There are 477 camp sites at the Morefield Campground which is open approximately 180 days each year (Janice Ayers (pers. comm.)). The average number of people staying at each site is four. Use figures indicate that 105,221 people used the campground in 1989. No plans for expansion of the campground are currently proposed and were not considered (Mac Foreman, pers. comm.).

The U.S. Department of Health, Education, and Welfare (1978) and the U.S. Environmental Protection Agency (1982) indicate that overnight campers use about 25 gallons per camper per day (gpcd) at campgrounds with flush toilets. Therefore, future consumptive water use for Morefield Campground was computed by subtracting the present water use from the future water demand as follows:

(25 gpcd) [(180 days)(477 sites)(4 people/site) - 105,221]
= 5,955,475 gals or 18.3 acre-feet

Future demands for water at Morefield Laundry and Showers were also computed. It was assumed that one load of laundry would be done for every two campers and that one out of every two campers would use the showers. The U.S. Department of Health, Education and Welfare (HEW) and the U.S. Environmental Protection Agency (EPA) indicate that each load of laundry consumes 50 gallons of water and that each person uses 10 gallons of

water to bathe. Therefore, the future increase in consumptive water use at Morefield Laundry and Showers was computed by subtracting the present use from future demand as follows:

(10+50 gpcd)[(180 days)(477 sites)(4 people/site)-105,221] / 2
= 7,146,570 gals or 21.9 acre-feet

Presumably, most water use at Navajo Hill Service Station and Cafe is associated with the Cafe

and the rest rooms. Therefore, an assumption was made about the increased use and number of meals served to project future use. Mac Foreman (pers. comm.), ARA, stated that they presently serve about 1,400 meals a day at the Navajo Hill Cafe. The Cafe is open for about 180 days per year and has an inside seating capacity of 400 people. Visitors also purchase meals and eat outside and therefore, don't always use seating in the Cafe. Assuming the maximum number of people served at each meal is 1.5 times the inside seating capacity, the maximum number served per day would be 1,800 people. According to HEW and EPA, water use at restaurants is 7-10 gallons per customer. Using 7 gallons per customer, the increase in water use at Navajo Hill Service Station and Cafe was estimated by subtracting the present use from the future demand as shown below:

(1,800-1,400 people/day)(7 gals/person)(180 days) = 504,000 gals or 1.6 acre-feet

ARA has submitted a proposal to expand the Navajo Hill Lodge from 150 to 200 rooms (Mac Foreman (pers. comm.)). Therefore, future water use at the Lodge will increase. The lodge is typically open for 180 days per year and has a capacity of 4 people per room. The Lodge housed 53,159 people in 1989 [Janice Ayers (pers. comm.)]. Water use at the Lodge was assumed to be 40 gallons per person per day (HEW, 1978). Therefore, future consumptive water use at Navajo Hill Lodge was computed by subtracting the present use from the future demand as follows:

(40 gpcd)[(200 rooms)(4 people/room)(180 days) - 53,159]
= 3,633,640 gals or 11.2 acre-feet

Based upon these assumptions, future consumptive water use at the four ARA facilities would be 53.0 acre-feet per year.

FUTURE WATER USE BY VISITORS AT NPS FACILITIES

Projected visitation at MEVE in the year 2104 is 3.84 million people. Water use at NPS rest areas was assumed to be 5 gallons per person (HEW and EPA). Rest area demand was

computed by subtracting present campground and visitor use from projected water demand for 3.84 million people. The 1989 visitation at MEVE was 600,045 people [Janice Ayers (pers. comm. 2)]. Future consumptive water use for rest areas was computed as follows:

(5 gallons/person)[3,840,000 people - 600,045 people - (477 sites)(4 people/site)(180 days)]
= 14,482,575 gals or 44.5 acre-feet

FUTURE WATER USE BY STAFF AT MEVE

Estimated visitation for 2104 is approximately five times the 1988 visitation. It was assumed that the number of interpreters and seasonals required to provide for visitor services and interpretation would also increase fivefold [Robert Heyder, (pers. comm.)] as would water use. This projected increase in staff is comparable to Grand Canyon (GRCA) and Yosemite National Parks (YOSE) which have 1988 visitation of 3,858,708 and 3,333,297 people, respectively. Presently, GRCA has a staff of 180 permanent employees (O'Hrogge, pers. comm.) and YOSE has a staff of 312 permanent employees (Printup, pers. comm.). MEVE presently has 42 permanent staff positions. If MEVE staff increases fivefold, permanent staff would number 210 people to provide for an annual visitation of 3.84 million people. A proportionate increase in water use for the staff can then be obtained by multiplying present staff use by five. A fivefold increase in ARA use was also assumed to accommodate for increased concessioner's use.

Table 1 shows present consumptive water use for NPS and ARA staff of 3,967,860 gallons or 12.2 acre-feet per year. Therefore, NPS staff use for the year 2104 was computed as follows:

5 (12.2 acre-feet) = 61.0 acre-feet

Therefore, future consumptive water use can be computed by subtracting present use from future demand as follows:

61.0 - 12.2 = 48.8 acre-feet

FUTURE WATER NEEDS FOR MISCELLANEOUS USES

Miscellaneous administrative uses include pipeline maintenance (constant flow to prevent freezing), road construction and dusting, revegetation and watershed restoration, livestock use, and fire suppression. The amounts of water required for these purposes are minimal and difficult to quantify, occur on an irregular basis, and were therefore, assumed to be included in present use figures and expected to remain constant until the year 2104.

TOTAL FUTURE CONSUMPTIVE USE NEEDS

Based upon these assumptions for each of the categories of water use at MEVE, estimated total future consumptive demand would be 146 acre-feet. The computation is shown below:

53.0 + 44.5 + 48.8 = 146.3 acre-feet or about 146 acre-feet

According to Don Mallory and Don McAnnally (pers. comm.), MEVE pumped about 115 acre-feet of water from the West Mancos River and Jackson Gulch Reservoir in 1989. The decreed water right for the NPS is 120 acre-feet, leaving 5 acre-feet available for future demand under the NPS's existing right. Therefore, future demand is adjusted downward 5 acre-feet, resulting in a Federal reserved water right claim for 141 acre-feet per year for future consumptive uses.

Table 1. Estimates of Present NPS and ARA Staff Water Use.

NPS Facility	User Type	#of Users	Days/User	GPCD[1]	Gals/Yr.
Park Headqtrs. and Museum	Permanent	24	261	15	93,960
	Seasonal	2	122	15	3,660
	Jr. Fellowship	1	90	15	1,350
Ruins Road, Far View & Entranc District Housing	Permanent	46	365	75	1,264,725
	Seasonal	123	182	75	1,678,950
Ruins Road Maint. Area	Permanent	16	261	50	208,800
Morefield Ranger Station	Permanent	1	261	15	3,915
Entrance Gate	Seasonal	2	261	15	7,830
TOTAL					**3,263,190**
ARA Facility					**Gals/Yr.[2]**
Mud Flats					128,330
Navajo Hill Housing					576,340
TOTAL					**704,670**

[1] Values of water use taken from the Manual of Individual Water Supply Systems published by the U.S. Environmental Protection Agency in 1982, Table 1, pp. 15-16.

[2] Quantities taken directly from a January 25, 1989 letter from Don McAnnally, Utility Systems Operator, MEVE to Gilbert Johnson, General Manager, ARA Mesa Verde Co.

REFERENCES

Ayers, Janice, pers. comm. 1, March 8, 1990.

Ayers, Janice, pers. comm. 2, March 14, 1990.

Foreman, Mac, pers. comm., March 8, 1990.

Heyder, Robert, pers. comm., November 1, 1989.

Mallory, Ron, pers. comm., March 14, 1990.

McAnnally, Don, January 15, 1988 and January 25, 1989 letters to Gilbert Johnson.

McAnnally, Don, pers. comm., March 9, 1990.

National Park Service, Mesa Verde National Park General Management Plan, 1979.

National Park Service, Rocky Mountain Region, Statement of Management, Mesa Verde National Park, 1986.

O'Hrogge, Maureen, pers. comm., November 6, 1989.

Printup, Dorothy, pers. comm., November 3, 1989.

Snyder, Michael, Memorandum to Mary Hermes, September 15, 1989.

Snyder, Michael, pers. comm., November 3, 1989.

U.S. Department of Health, Education, and Welfare, Environmental Health Practice in Recreational Areas, 1978.

U.S. Environmental Protection Agency, Manual of Individual Water Supply Systems, 1982.

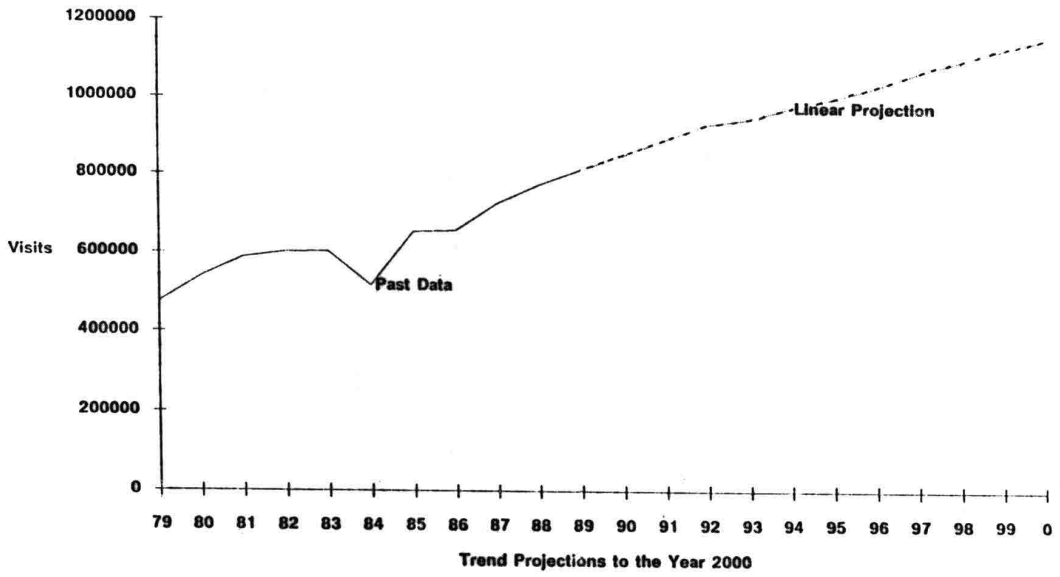
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FIGURE 1

ACTUAL & PROJECTED VISITATION

AT

MESA VERDE NATIONAL PARK



Existing Consumptive Water Use and Estimated Future Consumptive Water Needs for Mesa Verde National Park

Prepared by
Mary Hermes

March 14, 1990

Presently almost all water used for consumptive purposes in Mesa Verde National Park (MEVE) is imported via a 26-mile pipeline which provides water either directly from the West Mancos River or indirectly from the West Mancos River through the Jackson Gulch Reservoir. The amount of water the United States is authorized to appropriate from the West Mancos River under a decreed water right (120 acre feet) may not be adequate to meet future consumptive water needs for MEVE. Thus, estimates of future consumptive water needs for MEVE have been made to determine the amount of water to be claimed for future consumptive water needs under a Federal reserved water right.

The first method used to calculate future consumptive water needs at MEVE was to separate staff use, visitor use, and use to keep the pipes from freezing in the winter. The problem with this method was that it did not account for the different types of visitor use--the visitor just using National Park Service (NPS) facilities versus those staying at the lodge or campground--since the increases in the amount of water for the different types of visitors will be different.

The second method used to estimate future consumptive water needs was to separate visitor use at concessioner (ARA) facilities, use at NPS visitor facilities, staff use, and miscellaneous administrative uses such as fire suppression and pipeline leaks. To estimate the amount of water required for each of these uses, water use records for 1987 and 1988 were looked at. After looking at these records, however, all of the water used at MEVE could not reasonably be divided into these four uses. Thus, a third alternative to estimate future consumptive water needs at MEVE was considered.

The third method differed from the second in that only the increase in water use at MEVE was estimated for the same four categories: visitor use at ARA facilities, visitor use at NPS facilities, staff use, and miscellaneous administrative use. The first step in using this method to estimate future water needs at MEVE was to estimate future visitation.

An estimate of future visitation was made using information on the theoretical capacity of MEVE given in the NPS General Management Plan for MEVE and information provided by Michael Snyder of the Rocky Mountain Region (RMR) Office. According to the NPS General Management Plan for MEVE (1979), the hourly capacity at the three major use areas in the park is 1730 visitors. In a September 15, 1989 memo, Michael Snyder from the Division of Planning and Compliance of the RMR Office states that a visitor survey in 1987 indicated an average length-of-stay at the park of 4.29 hours. Thus, the following calculation of the park's persons-at-one-time (PAOT) theoretical capacity was made:

(1730) visitors/hour) (4.29 hours) = 7,422 visitors

During the summer season, when the expected visitor turnover rate as about 3, this would mean that the park's daily theoretical capacity is approximately 22,226 visitors per day.

A review of monthly visitation figures indicates that since 1977, July has normally been the peak visitation month at MEVE. Thus, the park's theoretical capacity is likely to be reached during this month, allowing the following estimate of the theoretical capacity of the MEVE during the month of July to be made:

(22,226 visitors/day) (31 days/month) = 689,000 visitors/month

A linear projection of the July visitation was made based on the visitation during the period from 1979 to 1988 to estimate the year in which the July visitation will reach the monthly theoretical capacity. A ten-year period of record was selected because the RMR Office normally uses a ten-tear period of record when making linear projection of expected visitation at parks (Mike Snyder, pers. comm.). From the linear projection of July visitation, the year in which the July visitation at MEVE will reach 689,000 people was estimated to be 2104.

To determine the annual visitation in the year 2104, a linear projection of annual visitation was made using Chart 1 provided by the RMR Office (attached). Based on this linear projection, the visitation for the year 2104 would be approximately 3.84 million people. Thus, the estimated increase in water use at MEVE for the four categories was calculated based on this estimate of future visitation.

PROJECTED WATER USE BY VISITORS AT ARA FACILITIES

ARA-run visitor facilities at MEVE include Spruce Tree Terrace, Wetherill Snack Bar, Navajo Hill Service Station and Cafe', Navajo Hill Lodge, Morefield Campground, Morefield Store, Morefield Laundry and Showers, and Morefield Service Station. To estimate future water needs associated with these facilities, the present water use associated with these facilities and the possibility that these facilities will be expanded were considered.

In 1987, ARA water use excluding staff use was 9.0 million gallons. In 1988, ARA water use, again excluding staff use, was 7.8 million gallons. 90% of the water use in 1987 and 88% of the water use in 1988 (excluding staff use) was associated with the same four ARA facilities: Morefield Campground, Morefield Laundry and Showers, Navajo Hill Service Station and Cafe', and Navajo Hill Lodge (McAnnally, 1988 and 1989). Due to the fact that most of the ARA water use is associated with these four facilities and that increased use at any of the other facilities would be fairly limited, only the possibility of increases in water use at Morefield Campground, Morefield Laundry and Showers, Navajo Hill Service Station and Cafe', and Navajo Hill Lodge were considered.

According to Janice Ayers (pers. comm.), there are 477 camp sites within the campground at MEVE which is open for approximately 180 days each year, and the average number of people that could stay at each site would be about four. Ayers also said in 1989, 105,221 people stayed at the campground. I asked Mac Foreman (pers. comm.) about the possibility of the campground being expanded, and he said there are no plans for expansion of the campground.

The U.S. Department of Health, Education, and Welfare (1978) and the U.S. Environmental Protection Agency (1982) state that for overnight campers in parks where flush toilets are available, the average water use per camper is 25 gallons per day. Thus, the increase in water use associated with the increase in visitor use at Morefield Campground was calculated by subtracting the estimate present water use from the estimated future maximum water use as follows:

(25 gpcd) [(180 days)(477 sites)(4 people/site) - 105,221]
= 5,955,475 gals or 18.3 acre-feet

Since Morefield Laundry and Showers is used by the campers at MEVE, calculations for future water use at this facility were made based on the assumption that approximately one load of laundry would be done for every two campers and that one of every two campers would use the showers. Again, according to both the U.S. Department of Health, Education and Welfare (HEW) and the U.S. Environmental Protection Agency (EPA), the average water use per load of laundry is 50 gallons and average water use per person for a bathhouse is 10 gallons. Thus, the increase in water use at Morefield Laundry and Showers was calculated by subtracting the estimated present use from the estimate future use as follows:

(10+50) gpcd)[(180 days)(477 sites)(4 people/site)-105,221]/2

= 7,146,570 gals or 21.9 acre-feet

Presumably most of the water use at Navajo Hill Service Station and Cafe' is associated with the cafe' and the rest rooms, thus, to estimate the increase in water use at this facility, the expected increase in meals served was evaluated. According to Mac Foreman (pers. comm.), ARA presently serves about 1400 meals a day at the Navajo Hill Cafe'. The cafe' is open for approximately 180 days per year and the inside seating capacity of the cafe' is about 400 people. Assuming the maximum number of people served at each meal is 1.5 times the inside seating capacity, the maximum number of meals or people served per day would be 1800. According to HEW and EPA, the water use per customer at a restaurant is 7-10 gallons. Using the lower estimate of 7 gallons per customer, the increase in water use at Navajo Hill Service Station and Cafe' was estimated as follows by subtracting the estimated present use from the estimated future use:

(1800-1400 people/day)(7 gals/person)(180 days = 504,000 gals or 1.6 acre-feet

According to Mac Foreman (pers. comm.), ARA has already submitted a proposal to expand the Navajo Hill Lodge from 150 to 200 rooms. Thus, this increase will likely occur sometime in the future. The lodge is open for approximately 180 days per year and has a presumed capacity of about 4 people per room. According to Janice Ayers (pers. comm. 2), 53,159 people stayed at the lodge in 1989. Assuming the water use per person is 40 gallons (HEW, 1978), the increase in water use at Navajo Hill Lodge was calculated by subtracting the estimated present use from the estimated future use as follows:

(40 gpcd)[(200 rooms)(4 people/room)(180 days) - 53,159]
= 3,633,640 gals or 11.2 acre-feet

Adding together, the estimated increased water needs for the four main ARA facilities, the estimated future consumptive water needs at ARA facilities are:

18.3 + 21.9 + 1.6 + 11.2 = 53.0 acre-feet

PROJECTED WATER USE BY VISITORS AT NPS FACILITIES

The projected visitation in 2104 is 3.84 million people. According to HEW and EPA, the expected water use per person at highway rest areas is 5 gallons. It is assumed that the average water use per visitor at NPS facilities would be similar. Since the estimate of water use per camper given as 25 gallons per person appears to include water use associated with visitation, the number of campers needs to be subtracted when estimating the total visitor water use at NPS facilities. The present visitation at MEVE also needs to be subtracted since the increase in use is being estimated, and according to Janice Ayers (pers. comm. 2), in 1989, visitation at MEVE was 600,045 people. Thus, the estimated increase in visitor water use at NPS facilities was calculated as follows:

(5 gallons/person)[3,840,000 people - 600,045 people -
(477 sites)(4 people/site)(180 days)] = 14,482,575 gals or 44.5 acre-feet

PROJECTED WATER USE BY STAFF AT MEVE

The estimated visitation for 2104 is approximately five times the 1988 visitation. According to Robert Heyder, Superintendent at MEVE (pers. comm.), because of the nature of the park, if the visitation increases fivefold, the number of interpreters will probably increase fivefold as well. Since interpreters make up the largest percentage of seasonal staff, it was assumed that the increase in the total number of seasonal staff personnel would be proportional to the increase in interpretive staff. Thus, it was estimated that the total number of seasonal staff in 2104 will be approximately five times the number of seasonal staff now. It was also assumed that the water use associated with seasonal staff will increase fivefold.

To estimate the increase in permanent staff members, visitation and permanent staff figures were obtained for Grand Canyon National Park (GRCA) and Yosemite National Park (YOSE). The 1988 visitation at GRCA was 3,858,708 people, and the park has approximately 180 permanent employees (O'Hrogge, pers. comm.). At YOSE, the 1988 visitation was 3,333,297 people and 312 permanent staff members are presently employed there (Printup, pers. comm.). MEVE presently has 42 permanent staff positions. If the staff increases fivefold by 2104, the number of permanent staff members would be 210 with an estimated visitation of 3,840,000 people. Comparing this number with the present visitation and staff at GRCA and YOSE, assuming a fivefold increase in permanent staff at MEVE is not unreasonable. Assuming a proportional increase in permanent staff water use as well, an estimate of the total NPS staff water use in 2104 can then be obtained by simply assuming a fivefold increase from present staff use. A fivefold increase in ARA staff use was also assumed.

According to estimates (Table 1), present staff water use at MEVE is 3,263,190 gallons plus 704,670 gallons or 12.2 acre-feet. Therefore staff use for 2104 was calculated as follows:

$$5\ (12.2 \text{ acre-feet}) = 61.0 \text{ acre-feet}$$

Thus, the increase in water use associated with the staff at MEVE was estimated as:

$$61.0 - 12.2 = 48.8 \text{ acre-feet}$$

PROJECTED WATER NEEDS FOR MISCELLANEOUS USES

The amount of water used for miscellaneous administrative uses such as leaks and fire suppression is thought to be fairly constant and should not increase with time. Therefore, miscellaneous administrative uses are assumed to be met by decreed water rights (120 ac-ft/yr) and no increase in miscellaneous water use was accounted for.

CONCLUSIONS

From the estimates of water needs for the different categories of use, the increase in the demand for water based on future use was calculated as follows:

$$53.0 + 44.5 + 48.8 + = 146.3 \text{ acre-feet or about } 146 \text{ acre-feet}$$

According to Don Mallory (pers. comm.) and Don McAnnally (pers. comm.), in 1989, MEVE pumped about 115 acre-feet of water from the West Mancos River and Jackson Gulch Reservoir. The NPS has a decreed water right for 120 acre-feet of water from the West Mancos River. Therefore, the 5 acre-feet of water not being used under the decreed water right can be applied toward estimated future consumptive water uses at MEVE. Thus, the estimated future consumptive water use at MEVE to be claimed under a Federal reserved water right should be 141 acre-feet/year.

REFERENCES

Ayers, Janice, pers. comm. 1, March 8, 1990.

Ayers, Janice, pers. comm. 2, March 14, 1990.

Foreman, Mac, pers. comm., March 8, 1990.

Heyder, Robert, pers. comm., November 1, 1989.

Mallory, Ron, pers. comm., March 14, 1990.

McAnnally, Don, January 15, 1988 and January 25, 1989 letters to Gilbert Johnson.

McAnnally, Don, pers. comm., March 9, 1990.

National Park Service, Mesa Verde National Park General Management Plan, 1979.

National Park Service, Rocky Mountain Region, Statement of Management, Mesa Verde National Park, 1986.

O'Hrogge, Maureen, pers. comm., November 6, 1989.

Printup, Dorothy, pers. comm., November 3, 1989.

Snyder, Michael, Memorandum to Mary Hermes, September 15, 1989.

Snyder, Michael, pers. comm., November 3, 1989.

U.S. Department of Health, Education, and Welfare, Environmental Health Practice in Recreational Areas, 1978.

U.S. Environmental Protection Agency, Manual of Individual Water Supply Systems, 1982.

Table 1. Estimates of Present NPS and ARA Staff Water Use.

NPS Facility	User Type	#of Users	Days/User	GPCD[1]	Gals/Yr.
Park Headqtrs. and Museum	Permanent Seasonal Jr. Fellowship	24 2 1	261 122 90	15 15 15	93,960 3,660 1,350
Ruins Road, Far View & Entranc District Housing	Permanent Seasonal	46 123	365 182	75 75	1,264,725 1,678,950
Ruins Road Maint. Area	Permanent	16	261	50	208,000
Morefield Ranger Station	Permanent	1	261	15	3,915
Entrance Gate	Seasonal	2	261	15	7,830
TOTAL					3,263,190
ARA Facility					Gals/Yr.[2]
Mud Flats					128,330
Navajo Hill Housing					576,340
TOTAL					704,670

[1] Values of water use taken from the Manual of Individual Water Supply Systems published by the U.S. Environmental Protection Agency in 1982, Table 1, pp. 15-16.

[2] Quantities taken directly from a January 25, 1989 letter from Don McAnnally, Utility Systems Operator, MEVE to Gilbert Johnson, General Manager, ARA Mesa Verde Co.

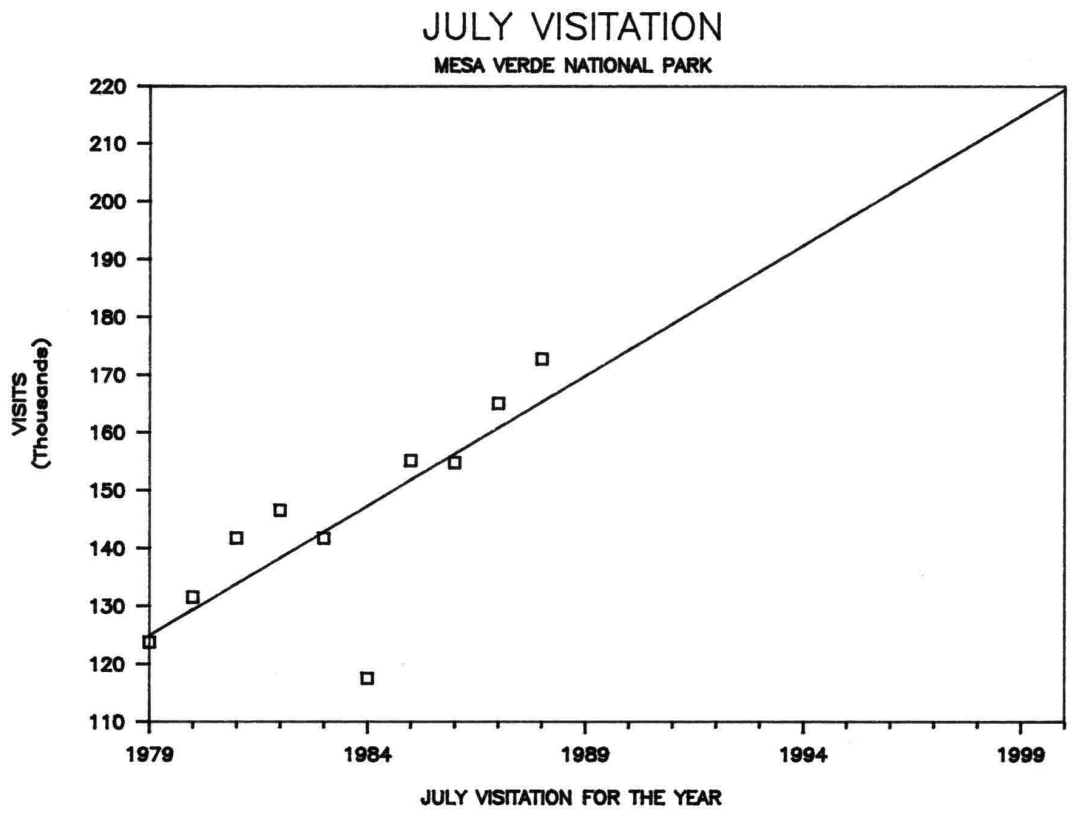
Table 1. Estimates of present NPS and ARA staff water use.

NPS Facility	User Type	# of Users	Days/User	GPCD[1]	Gals/Yr.
Park Headquarters and Museum	Permanent	24	261	15	93,960
	Seasonal	2	122	15	3,660
	Jr. Fellowship	1	90	15	1,350
Ruins Road, Far View, & Entrance District Housing	Permanent	46	365	75	1,264,725
	Seasonal	123	182	75	1,678,950
Ruins Road Maintenance Area	Permanent	16	261	50	208,800
Morefield Ranger Station	Permanent	1	261	15	3,915
Entrance Gate	Seasonal	2	261	15	7,830
TOTAL					3,263,190

ARA Facility	Gals./Yr.[2]
Mud Flats	128,330
Navajo Hill Housing	576,340
TOTAL	704,670

[1] Values of water use taken from the Manual of Individual Water Supply Systems published by the U.S. Environmental Protection Agency in 1982, Table 1, pp. 15-16.

[2] Quantities taken directly from a January 25, 1989 letter from Don McAnnally, Utility Systems Operator, MEVE to Gilbert Johnson, General Manager, ARA Mesa Verde Co.


JULY VISITATION
MESA VERDE NATIONAL PARK
VISITS (Thousands)
220
210
200
190
180
170
160
150
140
130
120
110
1979
1984
1989
1994
1999
JULY VISITATION FOR THE YEAR

00-00-0000: handwritten: linear regression for daily/annual visitation

MEVG

Linear Regression for July visitation

$$Y = 4505.89X - 8792259$$

Solving for X if $Y = 689{,}000$

$$X = \frac{8792259 + 689{,}000}{4505.89} = 2104$$

Linear Regression for Annual visitation

$$Y = 26766X - 52476249$$

Solving for Y if $X = 2104$

$$Y = 26766(2104) - 52476249 = 3{,}839{,}415$$

A5: 1980 READY

	A	B	C	D	E	F	G	H
5	1980	131609						
6	1981	141882						
7	1982	146716						
8	1983	141833						
9	1984	117588						
10	1985	155297						
11	1986	154908						
12	1987	165166						
13	1988	172929						
14	2000							
15		JULY VISITATION						
16		Regression Output:						
17	Constant			-8792259				
18	Std Err of Y Est			11818.63				
19	R Squared			0.599833				
20	No. of Observations			10				
21	Degrees of Freedom			8				
22								
23	X Coefficient(s)	4505.890						
24	Std Err of Coef.	1301.188						

14-Nov-89 11:41 AM CAPS

11-28-1989: annual visitation regression output

J14:

READY

	C	D	E	F	G	H	I	J
2		TOTAL						
3	LINE	VISITS			ANNUAL VISITATION			
4	124897	474477			Regression Output:			
5	129403	540826		Constant			-5.2E+07	= -52476248.709
6	133909	588847		Std Err of Y Est			47369.82	
7	138414	602968		R Squared			0.767038	
8	142920	604115		No. of Observations			10	
9	147427	516865		Degrees of Freedom			8	
10	151932	656271						
11	156439	658887		X Coefficient(s)	26766.14			
12	160944	728569		Std Err of Coef.	5215.246			
13	165450	772183						
14	219521							
15								
16	n Output:							
17		-8792259						
18		11818.63						
19		0.599833						
20	s	10						
21		8						

28-Nov-89 08:15 AM

CAPS

NPS Headquarters & Museum Area Staff Use

- number of people on duty at headquarters & museum (Romero, 9/18/89)

  - 19 permanent NPS staff members - year-round
  - 2 temporary NPS positions - June-Sept (7 days/wk)
  - 5 Mesa Verde Museum Assoc. staff - year-round
  - 1 Junior Fellowship - May-Aug (5 days/wk)

From TABLE 1 (EPA Manual of Individual Water Supply Systems)
Planning guide for water use
Workers: 15 gpcd

Est. water use

19	x 15 gpcd	x 261* days	=	74,385 gals
+ 2	x 15 gpcd	x 122 days	=	3,660
+ 5	x 15 gpcd	x 261* days	=	19,575
+ 1	x 15 gpcd	x 90 days	=	1,350
				98,970 gals

* number of govt. working days in year

(2)

NPS Staff Housing Use

- total number of NPS housing units is 67
  - 21 year-round units
  - 56 seasonal (occupied an average of 6 months)

- avg. number of people per unit is about 2.1 or 2.2 - use 2.2

- irrigation is negligible

From TABLE 1 (EPA Manual of Individual water Supply Systems) "Planning guide for water use":

Single family dwelling: 75 gcpd

- use 75 gpcd for seasonal & 75gpcd for year-round housing

Est. water use:

21 (2.2)(75 gpcd)(365d) = 1,264,725 gals
56 (2.2)(75 gpcd)(182d) = 1,678,950 gals

TOTAL 2,943,675 gals

NPS Maintenance Area Staff Use

- number of people on duty at maintenance area
  - 16 permanent staff members

From TABLE 1 (EPA Manual of Individual Water Supply Systems)
Planning guide for water use
Workers: 50 gpcd

Est. water use
16 x 50 gpcd x 261* days = 208,800 gals

* number of govt. working days per year

(4)

NPS Morefield Ranger Station Staff Use

- number of people on duty at Morefield Ranger Station
  - 1 permanent staff member

From TABLE 1 (EPA Manual of Individual Water Supply Systems) Planning Guide for Water Use

Workers: 15 gpcd

Est. water use:

1 x 15 gpcd x 261* days = 3915 gals

* number of govt. working days per year

(5)

NPS Entrance Gate Staff Use

- number of people on duty at entrance gate
  - 2 positions (7 days/wk - Mar 15 - Nov.)

From TABLE 1 (EPA Manual of Individual Water Supply Systems) Planning Guide for Water Use

- Workers: 15 gpcd

Est. water use:

2 x 15 gpcd x 261 days = 7830 gals

Total Staff Use

NPS Headquarters & Museum Area Staff Use	98,970 gals
NPS Staff Housing Use	2,943,675
NPS Maintenance Area Staff Use	208,800
NPS Morefield Ranger Station Staff Use	3,915
NPS Entrance Gate Staff Use	7,830
NPS White's Mesa Fire Lookout Station Staff Use	~0
NPS Wetherill Mesa Staff Use	~0
ARA Navajo Staff Use *	576,340
ARA Mud Flats Housing Staff Use*	128,330
	3,967,860

* From 1988 water use records

the park entrance. Limited public transportation is available to the area. The closest rail service is at Gallup, New Mexico, 150 miles, and Grand Junction, Colorado, 200 miles. Pioneer and Trans-Colorado Airlines provide service between Cortez, Grand Junction, and Denver, Durango, and Farmington. America West connects Durango with Albuquerque and Phoenix.

D. VISITOR USE ANALYSIS

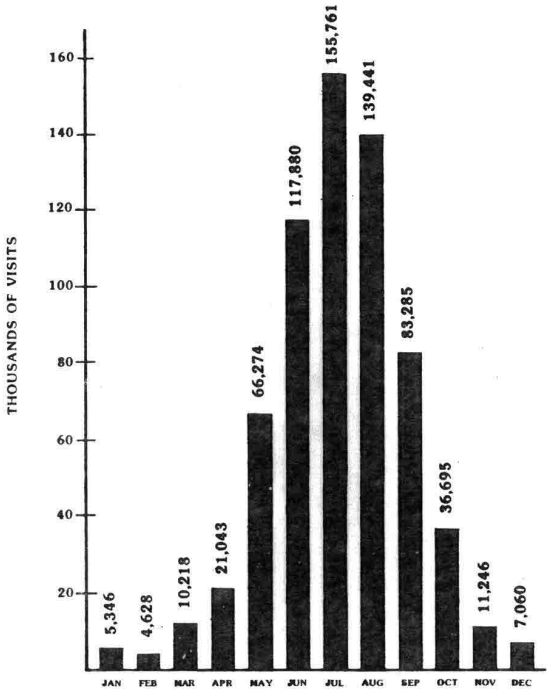
For the past 10 years, annual visitation to Mesa Verde National Park has averaged slightly more than 598,000 visits. Approximately 93 percent of this use occurs on Chapin Mesa with the remaining 7 percent of use on Wetherill Mesa. Wetherill Mesa is currently accessed by a concessioner-operated bus service which generally operates from mid-June to the first week of September.

At Mesa Verde National Park, the peak-use season is the months of June, July, and August. In 1985, approximately 63 percent of the park's annual use occurred during these months. July is the peak use month. During this month, visitation exceeds 5,000 visitors daily. The Monthly Visitation - 1985 figures illustrates the distribution of use throughout the year.

Average length-of-stay for the summer season is about 7 hours; in the winter this drops to about 3 hours. This drop is due in part to the closure of Wetherill Mesa and the closure of the Ruins Loop Road when snowfall and visitation levels do not warrant keeping the road open. The principle activity that visitors partake in is touring ruins and other Anasazi dwellings. Visitors to Mesa Verde originate from throughout the United States and foreign countries. Following is the 10 top ranking originations of park visitors.

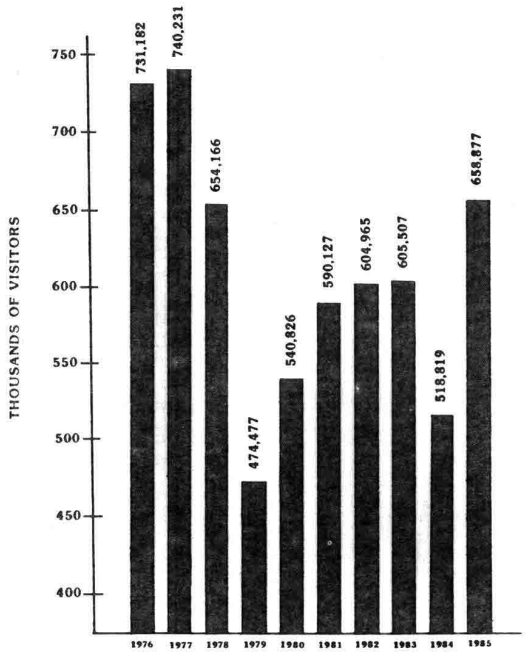
		Percentage Total
1.	Colorado	15.6
2.	Texas	11.0
3.	California	8.5
4.	Arizona	4.6
5.	West Germany	3.9
6.	Illinois	3.8
7.	New Mexico	3.7
8.	Oklahoma	3.3
9.	Missouri	2.9
10.	Utah	2.8

00-00-0000: bar charts: monthly visitation 1985, annual visitation 1976-85; for meve



MONTHLY VISITATION - 1985
MESA VERDE NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE



ANNUAL VISITATION 1976-1985
MESA VERDE NATIONAL PARK

U.S. DEPARTMENT OF THE INTERIOR - NATIONAL PARK SERVICE

Overnight use at the park is provided by the 494-site Moorfield Canyon campground and 150 motel units at the Far View developed area. Both the campground and lodge are open from April to October. In 1985, there were 44,576 overnight stays at the lodge and 142,765 overnight stays at the campground.

E. FACILITIES AND EQUIPMENT ANALYSIS

1. Nonhistoric Roads and Trails

A total of 123.9 miles of primary and secondary roads serves the park. A breakdown of this total is as follows:

Primary Roads		Secondary Roads	
Class 1 =	56.0 miles	Class 1 =	4.21
Class 2 =	0.0 miles	Class 2 =	57.80
Class 3 =	11.6 miles		
Total	67.6 miles	Total	62.01

The park's trails, totalling 77.15 miles, breakdown as follows:

Class 1 = 70.03 miles Class 2 = 7.12 miles

Total Trail System Mileage = 77.15 miles

2. Nonhistoric Buildings

The park's 87 nonhistoric buildings serve a wide variety of uses. The newest of these structures are nine mesa top ruin shelters--construction of which will be completed by the fall of 1986. Four of these are over sites on the Ruins Loop Road, four are over sites on Wetherill Mesa, and one over a village just north of the Far View ruins complex. Other nonhistoric sites range from house trailers, sewage treatment buildings, and comfort stations to a radio tower, water pumping station, and shelters for visitors waiting on the Wetherill Mesa shuttle buses.

3. Utility Systems

a. Chapin Mesa (Headquarters) District

Electricity - separate transformer system
Telephone - part of parkwide system

Water - part of parkwide system fed by Jackson Gulch Reservoir (Mancos River); immediate source from one-million gallon storage tank
Sewer - sewage first passes through aerated lagoon system and then receives tertiary treatment.

b. Ruins Road District (Chapin Mesa)

Electricity - none
Telephone - none
Water - immediate sources are a catchment storage tank in the hogan housing area and an underground tank fed by the one-million gallon tank in the Chapin Mesa District. Water needed for drinking fountains and rest rooms at Cliff Palace and rest rooms at Site 16
Sewer - system serves rest rooms at Cliff Palace and Site 16. Rest rooms at both locations have a septic tank each.

c. Far View District: Utilities serve the Far View Lodge, Terrace, and Visitor Center.

Electricity - separate transformer system
Telephone - part of parkwide system
Water - immediate source is a two-million gallon storage tank fed by main waterline from Jackson Gulch Reservoir
Sewer - treatment of sewage by aeration in three lagoons.

d. Park Point System (fire tower)

Electricity - separate transformer system
Telephone - part of parkwide system
Water - cistern fed system
Sewer - none.

e. Morefield District (477-plus campsites in Morefield Campground, Morefield Village, Morefield Ranger Station)

Electricity - all underground system; on its own transformer
Telephone - part of parkwide system
Water - immediate source is a 300,000-gallon storage tank fed by the main waterline from Jackson Gulch
Sewer - three-cell lagoon system.

f. Entrance District (entrance gate and private residence)

Electricity - separate transformer
Telephone - separate system (exchange) from the rest of the park facilitated removal of overhead line that traversed park's wilderness area
Water - fed by main waterline from Jackson Gulch
Sewer - separate septic tanks for entrance gate and private residence.

g. Jackson Gulch Treatment Plant (intake for parkwide water system)

Electricity - separate transformer
Water - maximum intake of water per day is 150,000 gallons.

h. Wetherill Mesa District (rest rooms, drinking fountains, and information kiosk at 200-car parking area)

Electricity - none
Telephone - part of parkwide system
Water - 300,000-gallon storage tank on Wetherill Mesa fed by main waterline from Jackson Gulch
Sewer - single-cell lagoon (potential two cells).

i. Whites Mesa District (fire lookout station)

Electricity - none from parkwide system; gasoline powered generator available
Telephone - none
Water - surface storage tank with 500-gallon capacity
Sewer - pit toilet.

4. Historic Structures

The park's physical plant has a large proportion of historic structures. Of the 161 buildings (from residences to storage sheds), 74 (46 percent) are listed on the National Park Service's List of Classified Structures. Included in this latter category are 15 buildings which comprise the Mesa Verde Historic Administrative District and which qualify for the National Register of Historic Places.

5. Major Equipment Owned or Leased

Mesa Verde is a maintenance intensive park which requires continuing repairs on its physical plant--

03-14-1990: report of telephone conversation regarding figures for 1989 lodge and campground visitation

REPORT OF TELEPHONE CONVERSATION

DATE 3-14-90 TIME 2:00 AM/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Janice Ayers

ORGANIZATION MEVE

ADDRESS

TELEPHONE NUMBER 529-4461

DISCUSSION Janice gave me the following figures for 1989 lodge and campground visitation:

	Lodge	Campground
Apr	510	2458
May	8,340	12,579
Jun	10,320	23,060
July	10,221	20,653
Aug	8,867	24,443
Sep	8,265	14,050
Oct	6,654	7,978
TOTAL	53,159	105,221

I asked how these #s were determined. She said lodge figures are actual. Campground #s are estimated by multiplying the # of sites used by a factor of 2.4 people/site. This factor went down in 1989. Prior to 1989, the factor was 4 people/site.

I also got the total visitation for 1989 from Janice. It was 600,045 people.

03-14-1990: report of telephone conversation regarding any fires or leaks

REPORT OF TELEPHONE CONVERSATION

DATE 3-14-90 TIME 10:15 AM/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Ron Mallory

ORGANIZATION MEVE

ADDRESS

TELEPHONE NUMBER 529-4478

DISCUSSION I asked Mallory if he knew if there were any fires or leaks in 1987 or 1988.

Mallory said there weren't any fires, but there were some leaks in 1987. They had 3 breaks in pipelines in 1987 - 2 in spring and 1 in Aug. They had to shut down concessions for 24 hrs. after the Aug. break.

I also asked Mallory about 1989 water use, and he said they pumped 36 mil. gals. to the front plant in 1989 and 33 mil. to the park.

REPORT OF TELEPHONE CONVERSATION

DATE 3-14-90 TIME 10:00 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes [X] I CALLED [ ] S/HE CALLED

PERSON Mac Foreman

ORGANIZATION MEVE

ADDRESS

TELEPHONE NUMBER 529-4465

DISCUSSION I called Mac to find out what the seating capacity of Far View Terrace (Navajo Hill Cafe) is. He said inside seating capacity is 400 people. They may be able to serve 500 w/ back patio

REPORT OF TELEPHONE CONVERSATION

DATE 3/9/90 TIME 8:00 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Don McAnnally

ORGANIZATION MEVE Maintenance

ADDRESS

TELEPHONE NUMBER 529-4478

DISCUSSION I discussed the following items w/ Don McAnnally:

Water storage facilities at MEVE: They have 1-2MG tanks, 1-1MG tank, 2-300,000 gal tanks, & 1-500,000 gal tank.

Ideally they would like to keep them all filled for fire suppression

I asked about water use for fire suppression & leaks. He said they used 25% of their storage in 2 days during the fire in 1989. He also said they can lose 1-2 million gals. overnight from a break in a pipeline.

As for water to keep the pipes from freezing, he said they use about 1.5 MG from the river to the plant (3 mi.) - this doesn't show up anywhere on water use records because it is wasted back close enough to the point of diversion. McAnnally also said they use about 250,000 gals. w/in the park. When the new plant comes on line, they'll probably need more water to keep the pipeline from the river to the plant open since it will be 10 mi. of line instead of 3 mi. and since the plant will be further away they may not be able to count the return flow. McAnnally also said they probably won't have to waste as much w/in the park because they will have telemetry controls.

I asked if there were any major uses besides visitor facilities, housing, pipeline leaks or breaks, water use to keep the pipes from freezing & fire suppression, and

(over)

McAnnally said, no, basically that's all the major uses.

I also asked whether he thought their meters were accurate and he said yes. McAnnally said they calibrate them visually by watching the change in storage over a given time period.

McAnnally also gave the following estimates of average water flow rates:

Morefield: 35,000 to 40,000 gpd

Far View: 35,000 gpd

Chapin Mesa: 30 gpm - Summer
18 gpm - Winter

03-08-1990: report of telephone conversation regarding plans for expansion of the campground, lodge and other ara facilities

REPORT OF TELEPHONE CONVERSATION

DATE 3/8/90 TIME 3:00 AM/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Mac Foreman

ORGANIZATION MEVE Administration

ADDRESS

TELEPHONE NUMBER 529-4465

DISCUSSION I asked Foreman about plans for expansion of the campground, lodge, and other ARA facilities. He said there are plans for expansion of the lodge - another 50 rooms. He said ARA has already put in a proposal, but it has been denied basically because of water limitations. He thinks that once the new treatment plant is on line, ARA will probably resubmit their expansion proposal. He said the lodge usually operates at about 95% of capacity and averages about 2.3 people/room. Most rooms have 2 beds.

Foreman also gave me the following figures for ARA facilities:

Spruce Tree Cafe - open yr-round. Serve about 400-600 people/day

Campground - open mid-Apr. to mid Oct.
Lodge - open 5½ to 6 months - end of Apr - Sept. and serve about 280 dinners/day
Terrace - open same time as lodge, serve about 1400 meals/day

03-08-1990: report of telephone conversation regarding visitation and capacity of the lodge and campground

REPORT OF TELEPHONE CONVERSATION

DATE 3/8/90 TIME 11:15 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Janice Ayers

ORGANIZATION MEVE Chief Rangers Office

ADDRESS

TELEPHONE NUMBER 529-4461

DISCUSSION I checked with Janice about visitation and capacity of the lodge and campground. Janice said the campground has 477 sites and it doesn't normally fill up. Maximum capacity is probably about 4 people per site.

The lodge has 150 rooms with a max. capacity of about 4 people per room and it fills up fairly often. Janice said right now expansion of the lodge is restricted because of the water system. She said the lodge usually opens the last weekend of April and the campground usually opens about mid April.

Janice gave me the following visitation figures for the lodge and campground:

	1987		1988	
	Lodge	Campground	Lodge	Campground
Apr.	not open	2303	142	916
May	6732	17570	8812	17326
June	8935	31457	8933	32152
July	10786	39585	13799	43132
Aug.	10438	40701	16305	39432
Sep.	11455	22977	8629	23294
Oct.	5218	8759	5812	9830
	53,564	163,352	62,432	166,082

02-12-1990: report of telephone conversation regarding information of the water usage

REPORT OF TELEPHONE CONVERSATION

DATE 2-12-90 TIME 11:40 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes [X] I CALLED [ ] S/HE CALLED

PERSON Don McAnally

ORGANIZATION MEVE

ADDRESS

TELEPHONE NUMBER 529-4478

DISCUSSION I talked to Don about the info. of the water usage that he gave us. He said the water use figures sent to the Regional Director are the amounts of treated water pumped to the park each month. Particularly during Oct. and Mar. some of this water may go into storage. McAnally also said that the water usage figures sent to the Regional Director for May-Sept. should pretty accurately reflect the use since the production of treated water during this time normally just keeps up with use.

The water use figures sent to the Mancos Water Conservancy District is the total amount of water pumped from the Mancos River. Some of which is returned to drain back into the river — not all of this water makes it to the park.

11-11-1989: report of telephone conversation regarding visitation for 1988

REPORT OF TELEPHONE CONVERSATION

DATE 11-6-89 TIME 8:30 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Heinnes ☒ I CALLED ☐ S/HE CALLED

PERSON Maureen O'Hrogge
ORGANIZATION Grand Canyon Nat'l. Park
ADDRESS
TELEPHONE NUMBER 602-638-7770

DISCUSSION First, I spoke w/ Maureen O'Hrogge who gave the visitation for 1988 which was 3,858,708 people. Next I spoke w/ the personnel office and they said they would call me back.

A representative from the personnel office returned my call, and told me they have about 180 permanent employees and about 700 seasonal employees during their peak season.

I also spoke to someone from Grand Canyon National Park Lodges, the major concessioner for the the park, and he said during the peak season, they employ about 1100 people.

Basically all of the park & concessioner employees live in the park.

11-03-1989: report of telephone conversation regarding visitation projections

REPORT OF TELEPHONE CONVERSATION

DATE 11-3-89 TIME 3:30 AM/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Mike Snyder

ORGANIZATION NPS RMR

ADDRESS

TELEPHONE NUMBER 303-969-2828

DISCUSSION I asked Snyder if visitation projections are normally only made based on the last 10 yrs. of visitation. He said normally yes, they only have the last 10 yrs. of record stored in the computer. He also said if you go beyond 10 yrs. the situation is so different, it just wouldn't make sense.

11-03-1989: report of telephone conversation regarding number of staff and visitation at yosemite

REPORT OF TELEPHONE CONVERSATION

DATE 11-3-89 TIME 4:00 AM/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Dorothy Pointue

ORGANIZATION Yosemite National Park

ADDRESS

TELEPHONE NUMBER 209-372-0200

DISCUSSION I called to check on the # of staff and visitation at Yosemite. At the end of August, which is the middle of their peak season, they had 312 permanent staff members and 298 seasonal staff members.

The 1988 visitation at Yose was 3,333,297 people.

REPORT OF TELEPHONE CONVERSATION

DATE Nov. 1, 1989 TIME 9:00 (AM)/PM

PROJECT MEVE & HOVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Robert Heyder

ORGANIZATION Superintendent @ MEVE

ADDRESS

TELEPHONE NUMBER 529-4465

DISCUSSION

MEVE

I outlined our projections of future visitation at MEVE - increasing at a rate of about 32000 visitors/year and ask about possible increases in staff & visitor facilities. Heyder said there will certainly be more facilities and probably new areas opened for development. He thinks water will be a limiting factor. As far as increases in staff, he suggested looking at the # of staff at parks w/ visitation in the range of the max. theoretical capacity estimated for MEVE (4.3 million) such as Grand Canyon or Yosemite and do a ratio/proportion comparison. He thinks the staff-to-visitor ratio will be higher at MEVE though because of it cultural resources. With a 6-fold increase in visitors though, you're probably looking at a 6-fold increase in interpreters - most will probably live outside the park, but there will need to be an increase in facilities to meet their needs while they're at the park.

HOVE - ~~Goodman Point~~ projected

He thinks the increases in visitation at MEVE would bring about development of HOVE sooner. Snyder thinks there may be about 4 to 5 people working there, who may or may not live in the park, if not, he thinks there will be a guard at night. He doesn't foresee an campground or snack bar type developments in park. Snyder thinks the cultural resources on the land are too valuable. He thinks commercial areas will probably be developed outside the park. If visitation at MEVE is 4 million he thought visitation at HOVE might be about 1 million.

10-19-1989: report of telephone conversation regarding information on monthly trends in visitor use

REPORT OF TELEPHONE CONVERSATION

DATE 10-19-89 TIME 9:30 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Mike Snyder

ORGANIZATION RMRO

ADDRESS

TELEPHONE NUMBER 303 - 969 - 2828

DISCUSSION I asked Snyder if they had any info on monthly trends in visitor use at MEVE. He said they didn't have any numbers, but in general, regionally the shoulder season use has been increasing at a higher rate than peak season use. Probably because of changes in the overall population, the use is being redistributed.

10-12-1989: report of telephone conversation regarding the location to pump water to keep the pipeline from freezing during the wi

REPORT OF TELEPHONE CONVERSATION

DATE 10-12-89 TIME 10:00 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Ron Mallory

ORGANIZATION Supv. Civil Engr., MEVE

ADDRESS

TELEPHONE NUMBER 529-4478

DISCUSSION I asked Ron when they usually have to pump water to keep the pipeline from freezing during the winter. He said it varies, sometimes they start as early as mid-Oct. and go till mid-Mar, but generally it's probably Nov. - Feb.

09-19-1989: report of telephone conversation regarding water use at some of the facilities

REPORT OF TELEPHONE CONVERSATION

DATE 9-19-89 TIME 9:30 (AM/PM)

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes [X] I CALLED [ ] S/HE CALLED

PERSON Ron Mallory

ORGANIZATION MEVE Supv. Civil Engr.

ADDRESS MEVE

TELEPHONE NUMBER 529-4478

DISCUSSION I called Ron Mallory to find out about water use at some of the facilities in MEVE. He went over the following w/ me:

Mcfield Ranger Station - has a private residence & office in one building and there is no water use associated w/ the office. He say they may water the lawn there some.

Entrance Gate - there is one residence & a separate office trailer which has a restroom & sink for staff use.

Whites Mesa fire Lookout Station - haul water to it

Wetherill Mesa - there is a trailer which is used as an office and first aid station and a comfort station. They may add another comfort station. He said the trams limit use on Wetherill Mesa. Could maybe increase 10 to 15%, but probably won't unless things change.

Mallory also said that eventually the visitor center, headquarters, research center & maintenance will all be moved down by the entrance about ½ mi. from new water plant. He said the move has been approved by the regional director.

He also said he would send me some info. on max. park capacity.

09-18-1989: report of telephone conversation regarding number of people working at the park for different times of the year

REPORT OF TELEPHONE CONVERSATION

DATE Sept 18, 1989 TIME 11:00 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Betty Romero
ORGANIZATION MEVE NPS Clerk Typist
ADDRESS Mesa Verde National Park, CO 81330
TELEPHONE NUMBER 303-529-4465

DISCUSSION I checked with Betty about the number of people working at the park for different times of the year. She gave me the following info. on the # of people working at different places in the park during different times of the year:

Headquarters: 10 permanent employees
1 junior fellowship - during summer & vacations (40 hrs/wk)

Chief Ranger's Office: 5 permanent employees (Resource Mngmt)
2 seasonal - dispatch (7 days a wk) June - Sept

Museum: 4 permanent employees (Interpretation)
1 seasonal (7 days a wk - Apr.-Nov).

Research Center: 5 permanent year-round employees (including 1 from Resource Mngmt.)
2 permanent ~8 months
3 seasonals for May - Oct 15 (40 hrs/wk)

Maintenance: 16 permanent employees
15 seasonal - Apr. - Oct. (in field - 40 hrs/wk)

Morefield Ranger Station: 1 permanent (Resource Management) (40 hrs/wk)

Entrance Gate: 2 people (7 days a wk: Mar 15 - Nov)

Besides the 2 seasonals working for Resource Management in the Chief Ranger's office, Resource Management hires 21 other seasonals and they are also in charge of the Y.C.C. group - usually about 8 kids. Interpretation usually hires 33 employees (with 1 position at the museum). Probably the avg. length of stay for these positions is Apr. - Oct. Research hires 8 seasonals, 3 of

whom work in the center. The other 5 are out on stabilization

Note: the Mesa Verde Museum Assoc. also has 5 employees which work at the museum year-round. The museum is open 7 days a wk, but each employee probably only works 40 hrs/week.

09-18-1989: report of telephone conversation regarding housing

REPORT OF TELEPHONE CONVERSATION

DATE Sept. 18, 1989 TIME 9:00 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Mac Foreman

ORGANIZATION MEVE NPS Conc. Mgmt. Spec.

ADDRESS Mesa Verde National Park, CO 81330

TELEPHONE NUMBER 303-529-4465

DISCUSSION I spoke w Mac Foreman, MEVE about the housing at MEVE. He said the total number of housing units is 67 - which includes trailer plug-ins, and the avg. number of people per unit is probably about 2.1 or 2.2. The number of year-round housing units is 21 and the number of seasonal housing units is 56. The seasonal housing units are occupied an average of 6 months. Foreman said about 5 or 6 horses do some lawn or garden watering, but it probably only amounts to about 1/32 or 1/16 of an acre, and the use of water is fairly sporadic.

I also asked Foreman about ARA housing. He said there are no ARA employees which live at the park year-round. All ARA employees are seasonal, and their season runs for 6-7 months. He said Mud Flats includes trailer & pull-in sites and about 12 people live there, and about 54 people live in the Navajo Hill units which are basically dorms.

As far as increases in housing, he said there are no plans for any increases - just replacement "in kind" - no increase. The situation for ARA housing is the same. They can replace "in kind" - no increases.

09-15-1989: report of telephone conversation regarding estimates for future visitation and maximum park capacity

REPORT OF TELEPHONE CONVERSATION

DATE Sept. 15, 1989 TIME 10:50 AM/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Ken Hornback

ORGANIZATION NPS Denver Service Center (Professional Support - Statistics)

ADDRESS P.O. Box 25287, Denver, CO 80225

TELEPHONE NUMBER 303-969-2064

DISCUSSION I asked Hornback about getting estimates for future visitation at MEVE and also whether there was a maximum park capacity. He said they only do forecasting on a project basis and we would need to submit a request if we wanted something done for MEVE. A request should be addressed to:

Chief of Statistics
Office of the Manager
Denver Service Center
National Park Service
P.O. Box 25287
Denver, CO 80225

Hornback also mentioned that Mike Snyder of the RMRO might have some info. available.

REPORT OF TELEPHONE CONVERSATION

DATE Sept. 15, 1989 TIME 11:00 (AM)/PM

PROJECT MEVE

NPS PERSON ON CALL Mary Hermes ☒ I CALLED ☐ S/HE CALLED

PERSON Mike Snyder

ORGANIZATION NPS Rocky Mt. Regional Office (Planning & Compliance)

ADDRESS

TELEPHONE NUMBER 303 - 969 - 2828

DISCUSSION Snyder said their office could probably put something together for us by next week. It would be purely based on statistics. they can run growth & trend patterns.

I mentioned that we wanted an estimate for 50 yrs from now and he said that they wouldn't be able to

He asked if we wanted information on recreational visits or total visits, and said recreational visits are solely the visitors to the park while total visits include park staff. I said we would prefer info. on just recreational visits.

I asked about a max. carrying capacity for the park, and he said a general maximum capacity for the park is given in the GMP.

SEP 1 [illegible] 1989
Water Resources Branch

Code (RMR-PP)

Memorandum

To: Mary Hermes, Water Resources Division, Ft. Collins

From: Chief, Division of Planning and Compliance, Rocky Mountain Region

Subject: Mesa Verde National Park, Use Projections and Visitor Capacity

As requested attached is a graph illustrating trend projections for Mesa Verde, this trend is based on past use only and does not include other factors such as economic and social changes. Have also attached the General Management Plan for the park, note the section on "Visitor Capacity". It illustrates hourly capacity at each of the three major use areas, they total 1,730 visitors/hour. Our 1987 visitor use survey revealed an average length-of-stay at the park of 4.29 hours. By multiplying the capacity/hour (1,730) by the length-of-stay (4.29) we can determine the park's persons-at-one-time (PAOT) theoretical capacity. In this case 7,422 PAOTs. I expect that throughout the summer season we can assume a turnover rate of about 3. This would mean the park's daily theoretical capacity is about 22,226 visitors.

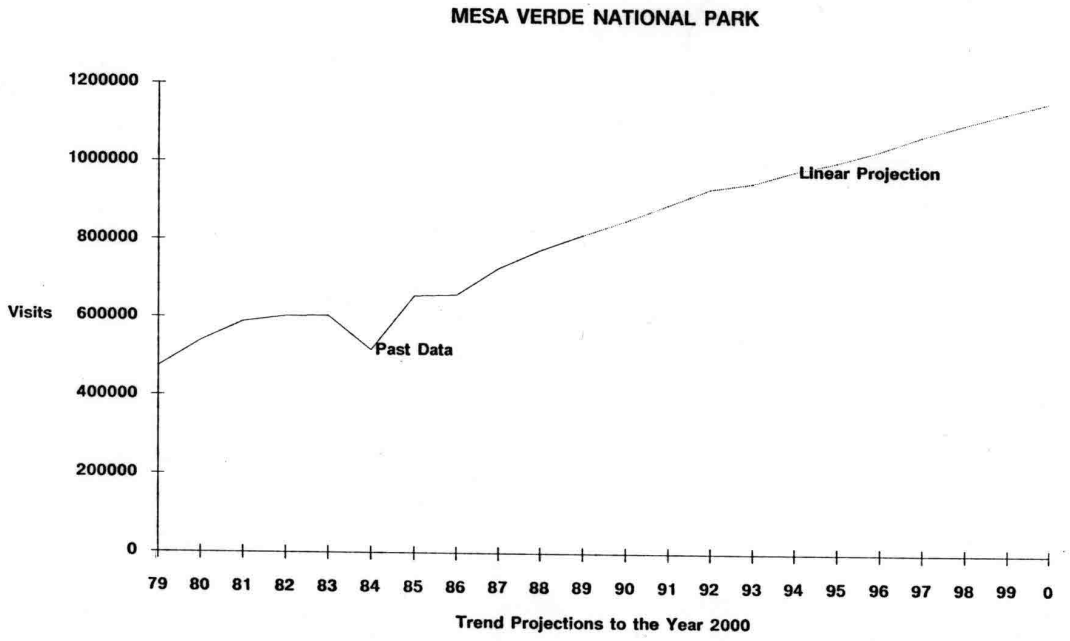
9/15

Michael D. Snyder

Enclosure

09-13-1989: graph: trend projections to the year 2000

Chart1



August 4, 1989

Memorandum

To: Alice Johns, Hydrologist

From: Mary Hermes, Research Associate

Subject: Information from MEVE

Enclosed is a list of the permanent staff members at MEVE, a list of water sites categorized by type, water use figures for 1984-1988, and monthly and yearly visitor numbers from January, 1961 to July, 1989.

The number of visitors is determined on a monthly basis by multiplying the number of passenger vehicles by a factor which is supposed to reflect the average number of passengers per passenger vehicle for the month. Added to this is the number of visitors in larger groups, which is determined by counting the number of people in each large group individually and totalling for the month. The following equation illustrates how the number of monthly visitors is determined:

Total number of monthly visitors = (Factor)(Number of passenger vehicles) + (Number of large group visitors)

The factor which is multiplied by the number of passenger vehicles varies for each month, and these factors were revised as of 1989. For example, prior to 1989, the visitor per passenger vehicle factor for the month of July was 3.8. In 1989, based on further studies, the factor for July was changed to 3.2. This is one reason for the lower attendance figures in 1989. It should also be noted that from July 9, 1989 through July 11, 1989, MEVE was closed because of a fire.

In the summer of 1976, a large amount of construction took place on the park road, which may have affected the visitor numbers during this year.

I obtained the visitation figures from Janice Ayers in the Chief Ranger's

Office and she said the staff at MEVE doesn't do future visitor projections, but she mentioned that the Denver office might have some projections.

If you would like further information regarding the visitation figures, such as a list of the monthly passenger per passenger vehicle factors, both prior to and as of 1989, please let me know, and I will see what I can do.

Enclosures

PERMANENT STAFF

Superintendent's Office - 529-4465

Robert C. Heyder	Superintendent
Leslie M. Foreman	Conc. Mgmt. Spec.
Carolyn S. Landes	Secretary

Administration - 529-4465

Jack L. Muller	Administrative Officer
Gary DeBusk	Computer Programmer Analyst
Dixie L. Sparks	Procurement Analyst
Susan B. Johnson-Erner	Personnel Assistant
Cynthia D. Hurlbutt	Fiscal Clerk
Betty D. Romero	Clerk Typist
Carolyn Mathies	Clerk Typist

Interpretation - 529-4475

Donald C.Fiero	Supv. Park Ranger
John C. Kenoyer	Park Ranger
Linda Martin	Supv. Park Ranger
Beverly J. Cunningham	Library Technician

Resource Management & Visitor Protection - 529-4461

Howard L. Dimont	Supv. Park Ranger
Janice K. Ayers	Secretary
E. John Sheek	Supv. Park Ranger
James E. Lynch	Park Ranger
Steve Budd-Jack	Park Ranger
Steven Robinson	Park Ranger
Marilyn Colyer	Park Ranger

Research - 529-4510

Jack E.Smith	Supv. Archeologist
Linda Hock	Secretary
Kathleen W. Fiero	Archeologist
Elizabeth C. Bauer	Museum Curator
Raymond Begay	Masonry Worker
Gene Trujillo	Masonry Worker

Maintenance - 529-4478

Ronnie J. Mallory	Supv. Civil Engineer
Linda A. Lanier	Program Clerk
Jackson E. Hall	Eng. Equip. Oper. Foreman
Robert W. Bangs	Maint Mech. Foreman
Marcelino P. Aldaz	Heavy Mobile Equip. Mech.
Gerald Lange	Engineering Equip. Operator
Ned Mark	Engineering Equip. Operator
Richard Greenlee	Maintenance Worker
Cato Hayes	Maintenance Worker
Bobby A. Prater	Carpenter
Nicanor Sanchez	Painter
William H. Simpson, Jr.	Custodial Worker
Kirby L. Weaver	Electrical Worker
Donald B. McAnally	Utility Systems Operator
Vacant	Utility Systems Operator
James H. Perry	Plumber

Hovenweep National Monument - Radio 600

Alan G. Whalon	Area Manager
Stuart W. Schneider	Park Ranger

01-09-1989: memorandum to regional director from superintendent regarding water pumped to park

United States Department of the Interior
NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

1988

IN REPLY REFER TO:

D5039 (MEVE-M)

January 9, 1989

Memorandum

To: Regional Director, Rocky Mountain Region
Attention: Engineering and Maintenance

From: Superintendent, Mesa Verde National Park

Subject: Water Pumped to Park treated water

Total water pumped to the park in 1988 from January 1 to December 31, 1988 was:

January	1,285,470 Gallons
February	1,239,120
March	1,545,100
April	2,245,770
May	3,188,250
June	3,706,110
July	4,030,290
August	4,104,270
September	3,613,050
October	3,378,510
November	1,477,890
December	1,355,310
TOTAL GALLONS	31,169,140 Gallons

95.6 AF

Robert C. Heyder

01-25-1989: letter to general manager from nps regarding water usage by ara mesa verde for 1988

United States Department of the Interior
NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

IN REPLY REFER TO:

D5039 (MEVE-M)

January 25, 1989

Gilbert Johnson
General Manager
ARA Mesa Verde Co.
P.O. Box 277
Mancos, Colorado 81328

Dear Mr. Johnson:

For your information, the following is a reading of the water usage by ARA Mesa Verde for the 1988 year.

Mud Flats – Spruce Tree trailer & pull-in sites	128,330 gallons
Spruce Tree Terrace	421,100
Wetherill Snack Bar	940
Navajo Service Station (Cafe)	1,153,700
Navajo Hill Trailer No. 1	18,000
Navajo Hill Trailer No. 2	44,210
Navajo Hill Trailer No. 3	88,270
Navajo Hill Trailer No. 4	227,030
Navajo Hill Trailer No. 5	103,880
Navajo Hill Trailer No. 6	94,950
Navajo Hill Lodge	1,433,000
Morefield Campground	3,040,400
Morefield Store	337,330
Morefield Laundry and Showers	1,247,000
Morefield Service Station	11,760
Total Usage	8,349,900 gallons

Water Usage during peak months of operation in 1988:

	ARA	NPS
June	1,547,630	2,158,480
July	2,099,690	1,930,600
August	1,748,410	2,355,860

If you have any questions, please feel free to contact me at 529-4478.

Sincerely yours,

Don B. McAnally
DBM/ll

D24 MEVE-M)

November 30, 1988

Mancos Water Conservancy District
Jackson Gulch Dam
Mancos, Colorado 81328

Dear Sirs:

Re: Water Usage from November, 1987 to October, 1988

Water Used:

November 1987	2,069,000 gallons
December 1987	1,107,000
January 1988	1,493,000
February 1988	1,454,000
March 1988	1,640,000
April 1988	2,749,000
May 1988	3,724,000
June 1988	3,889,000
July 1988	4,071,000
August 1988	4,039,000
September 1988	3,873,000
October 1988	3,445,000
	33,523,000 gallons

includes backwashing - chemical mixing etc. water washing

Donald B. McAnally
Utility Systems Operator

DBMCANALLY:11 11/30/88:529-4478

pc: McAnally
Bangs

102.8 AF

01-07-1988: memorandum to regional director from superintendent regarding water pumped to park

United States Department of the Interior
NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

IN REPLY REFER TO:

1987

D5039 MMEVE-M)

January 7, 1988

Memorandum

To: Regional Director, Rocky Mountain Region
Attention: Engineering and Maintenance

From: Superintendent, Mesa Verde National Park

Subject: Water Pumped to Park

Total water pumped to the park in 1987 from January 1 to December 31, 1987 was:

January	1,463,130
February	1,144,440
March	1,300,410
April	1,749,690
May	2,823,030
June	3,356,100
July	4,136,850
August	4,009,050
September	4,060,620
October	3,299,490
November	1,927,710
December	1,001,520
TOTAL GALLONS	30,272,040

Robert C. Heyder

01-15-1988: letter to general manager from nps regarding water usage readings by ara mesa verde for 1987

United States Department of the Interior

NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

IN REPLY REFER TO:

D5039 (MEVE-M)

January 15, 1988

Gilbert Johnson
General Manager
ARA Mesa Verde Co.
P.O. Box 277
Mancos, Colorado 81328

Dear Mr. Johnson:

For your information, the following is a reading of the water usage by ARA Mesa Verde for the 1987 Year.

	GALLONS
Mud Flats	93,140
Spruce Tree Terrace	328,800
Wetherill Snack Bar	2,300
Navajo Service Station (Cafe)	927,400
Navajo Hill Trailer No. 1	31,400
Navajo Hill Trailer No. 2	41,470
Navajo Hill Trailer No. 3	99,360
Navajo Hill Trailer No. 4	218,420
Navajo Hill Trailer No. 5	104,940
Navajo Hill Trailer No. 6	117,350
Navajo Hill Lodge	1,247,000
Morefield Campground	4,569,740
Morefield Store	299,770
Morefield Laundry and Showers	1,326,800
Morefield Service Station	16,300
Total Usage	9,424,190

Water Usage during peak months of operation in 1987:

	ARA	NPS
June	1,797,720	1,558,380
July	2,011,490	2,125,360
August	2,166,390	1,842,660

If you have any questions, please feel free to contact me at 529-4478.

Sincerely yours,

Don B. McAnally

11-10-1987: letter to mancos water conservancy district from utility systems operator regarding water usage from november 1986

D24 MEVE-M)

November 10, 1987

Mancos Water Conservancey District
Jackson Gulch Dam
Mancos, Colorado 81328

Dear Sirs:

Re: Water Usage from November, 1986 to October, 1987

Water Used:

November 1986	1,260,000
December 1986	1,469,000
January 1987	1,653,000
February 1987	1,286,000
March 1987	1,455,000
April 1987	2,254,000
May 1987	3,437,000
June 1987	3,843,000
July 1987	4,248,900
August 1987	4,133,000
September 1987	4,092,000
October 1987	3,345,000
	32,475,000

- doesn't include what's wasted in winter

Donald B. McAnally
Utility Systems Operator

cc: McAnally
Bangs

DBMCANALLY:sm 11/10/87:529-4478

01-20-1987: memorandum to regional director from superintendent regarding water pumped to park

United States Department of the Interior
NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

IN REPLY REFER TO:

1986 year

D5039 (MEVE-M)

January 20, 1987

Memorandum

To: Regional Director, Rocky Mountain Region
Attention: Engineering and Maintenance

From: Superintendent, Mesa Verde National Park

Subject: Water Pumped to Park

Total water pumped to the park in 1986 from January 1 to December 31, 1986 was:

January	1,865,100
February	1,623,960
March	1,355,670
April	2,334,690
May	2,825,190
June	3,513,240
July	4,253,040
August	4,095,900
September	3,270,330
October	2,070,450
November	1,154,160
December	1,259,190
TOTAL GALLONS	29,620,920

Robert C. Heyder

11-03-1986: letter to mancos water conservancy district from utility systems operator regarding water usage from november 1985

D24 (MEVE-M)

November 3, 1986

Mancos Water Conservancy District
Jackson Gulch Dam
Mancos, Colorado 81328

Dear Sirs:

Re: Water Usage from November, 1985 to October, 1986

Water Used:

November 1985	1,690,000 gals.
December 1985	425,500 gals.
January 1986	1,984,500 gals.
February 1986	1,674,000 gals.
March 1986	1,460,000 gals.
April 1986	2,936,000 gals.
May 1986	3,565,000 gals.
June 1986	4,018,000 gals.
July 1986	4,485,000 gals.
August 1986	4,269,000 gals.
September 1986	3,521,000 gals.
October 1986	2,115,000 gals.
	32,143,000 gals.

Donald B. McAnally
Utility Systems Operator

cc: McAnally
Bangs

DBMCANALLY:jb 11/3/86:529-4478

MOREFIELD WATER USAGE 1986

Date Meters Read:		
May 2, 1986	27,158,000	Main Meter
June 1, 1986	28,125,000	Main Meter 6/1/86
	-27,158,000	Main Meter 5/2/86
	967,000	Main Meter,Water Used
	-4,190	Morefield Ranger Station, NPS *
	-3,150	" Trailer #202, NPS *
	-4,190	" Trailer #203, NPS *
	-81,770	" Store, ARA *
	-114,900	" Laundry & Showers, ARA *
	-5,560	" Service Station, ARA *
	-10,000	Federal Highways (est.) *
	743,240	Campground Water Usage
July 2, 1986	29,346,000	Main Meter 7/2/86
	28,125,000	Main Meter 6/1/86
	1,221,000	Main Meter,Water Used
	-24,620	Morefield Ranger Station, NPS *
	-3,200	" Trailer #202, NPS *
	-7,160	" Trailer #203, NPS *
	-61,810	" Store, ARA *
	-278,600	" Laundry & Showers, ARA *
	-4,440	" Service Station, ARA *
	-60	Federal Highways *
	841,110	Campground Water Usage
August 10, 1986	30,910,000	Main Meter 8/10/86
	29,346,000	Main Meter 7/2/86
	1,564,000	Main Meter,Water Used
	-19,580	Morefield Ranger Station, NPS *
	-3,900	" Trailer #202, NPS *
	-21,540	" Trailer #203, NPS *
	-93,580	" Store, ARA *
	-422,100	" Laundry $ Showers, ARA *
	-11,810	" Service Station, ARA *
	-1,800	Federal Highways *
	989,690	Campground Water Usage
September 1, 1986	31,765,000	Main Meter 9/1/86
	30,910,000	Main Meter 8/10/86
	855,000	Main Meter, Water Used
	-9,830	Morefield Ranger Station, NPS *
	-2,610	" Trailer #202, NPS *
	-4,070	" Trailer #203, NPS *
	-52,680	" Store, ARA *
	-209,200	" Laundry & Showers, ARA *
	-9,670	" Service Station, ARA *
	-1,290	Federal Highways *
	565,650	Campground Water Used

September 14, 1986	32,079,000	Main Meter 9/14/86
	31,765,000	Main Meter 9/1/86
	314,000	Main Meter, Water Used
	-1,010	Morefield Ranger Station, NPS *
	-4,030	" Trailer #202, NPS *
	-1,410	" " #203, NPS *
	-9,400	" Store, ARA *
	-56,700	" Laundry & Showers, ARA *
	-3,480	" Service Station, ARA *
	-600	Federal Highways *
	237,370	Campground Water Usage
September 25, 1986 (for October billing)	32,236,000	Main Meter 9/25/86
	32,079,000	Main Meter 9/14/86
	157,000	Main Meter, Water Used
	-1,240	Morefield Ranger Station, NPS *
	-650	" Trailer #202, NPS *
	-360	" " #203, NPS *
	-5,080	" Store, ARA *
	-33,000	" Laundry & Showers, ARA *
	-2,850	" Service Station, ARA *
	-610	Federal Highways *
	113,210	Campground Water Usage
November 4, 1986	32,582,000	Main Meter 11/4/86
	32,236,000	Main Meter 9/25/86
	346,000	Main Meter, Water Used
	-4,910	Morefield Ranger Station, NPS *
	-2,160	" Trailer #202, NPS *
	-170	" " #203, NPS *
	-1,310	" Store, ARA *
	-28,800	" Laundry & Showers, ARA *
	-1,720	" Service Station, ARA *
	-10	Federal Highways *
	306,920	Campground Water Usage

* Already billed and/or accounted for.

3,797,190	Total Gallons used in Campground

MEVE NPS Rate $3.22/1000 gal. X 2
Montezuma Rural Water Co. Rate $2.60/1000 gal. X 2

10-31-1985: letter to mancos water conservancy district from nps regarding water usage from november 1984 to october 1985

United States Department of the Interior
NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

IN REPLY REFER TO:

October 31, 1985

1985 year

Mancos Water Conservancy District
Jackson Gulch Dam
Mancos, CO 81328

Dear Sirs:

Re: Water Usage from November, 1984 to October, 1985

Water used:

November '84	1,399,100 gals.
December '84	1,049,300 gals.
January '85	1,311,930 gals.
February '85	1,070,310 gals.
March '85	1,490,000 gals.
April '85	1,324,000 gals.
May '85	3,284,000 gals.
June '85	3,782,000 gals.
July '85	3,760,000 gals.
August '85	4,162,000 gals.
September '85	4,146,000 gals.
October '85	2,194,000 gals.
TOTAL	28,972,640 gals.

Donald B. McAnally
Utility Systems Operator
Mesa Verde National Park

Year of the Visitor

01-02-1986: memorandum to regional director from superintendent regarding water pumped to park

United States Department of the Interior

NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

IN REPLY REFER TO:

D5039 (MEVE-M)

January 2, 1986

Memorandum

To: Regional Director, Rocky Mountain Region
Attention: Engineering and Maintenance

From: Superintendent, Mesa Verde National Park

Subject: Water Pumped to Park

Total water pumped to park in 1985 from 1 January to 31 December 1985:

January	1,165,590
February	1,040,310
March	1,364,760
April	1,107,320
May	2,638,440
June	3,457,080
July	3,681,630
August	4,060,710
September	3,909,870
October	2,288,970
November	1,585,710
December	397,530
Total Gallons	26,697,920

Robert C. Heyder

Year of the Visitor

WATER USAGE for FY85

Taken from 1985 Water & Sewer Billings.
Formula for billing is based on $3.45/1000 gallons x 2.

Concessioner's use:

1,700 gal/day	Mud Flats	82,000	gal/yr
	Spruce Tree Terrace	225,000	" "
16,000 gal/day	Navajo Hill Service Station	1,000,000	" "
	Trailer #1	18,000	" "
	Trailer #2	12,000	" "
	Trailer #3	100,000	" "
	Trailer #4	388,000	" "
	Trailer #5	226,000	" "
	Trailer #6	226,000	" "
	North Meter (Lodge)	910,000	" "
8,500 gal/day	Morefield Service Station	27,000	" "
	Morefield Store	280,000	" "
	Morefield Laundry & Showers	1,200,000	" "
40,000 gal/day	Morefield Dump Station & Comfort Stations	7,200,000	" "
800 gal/day	Wetherill Mesa	Less than 300,000	" "
	TOTAL	12,194,000	gal/yr

NPS use:

35,000 gal/day	Chapin (HQ, Maint., Utilities, Housing, Ruins Road)	
5,000 gal/day	Water Loss (Estimated) 1,700,000 or 5.5 AF	
3,000 gal/day	Far View Visitor Center	15,695,000 gal/yr
110,000 gal/day	TOTAL	27,889,000

Water Plant averaged 110,000 gallons/day during this billing period (6 months).

11-07-1984: memorandum to mancos water conservancy from utility systems operator regarding water usage

United States Department of the Interior
NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

1984

IN REPLY REFER TO:

November 7, 1984

Memorandum

To: Mancos Water Conservancy

From: Utility Systems Operator

Subject: Water Usage

Water used:

1-30	Nov '83	1,168,400	gals.
1-31	Dec '83	1,168,600	gals.
1-31	Jan '84	2,027,600	gals.
1-28	Feb '84	1,382,800	gals.
1-31	Mar '84	880,500	gals.
1-30	Apr '84	1,477,800	gals.
1-31	May '84	1,964,200	gals.
1-30	June '84	3,612,600	gals.
1-31	July '84	4,827,100	gals.
1-31	Aug '84	5,126,000	gals.
1-30	Sept '84	3,661,000	gals.
1-31	Oct '84	2,209,100	gals.
	Total	29,505,700	gals.

Donald B. McAnally

Year of the Visitor

01-07-1985: memorandum to regional director from superintendent regarding water pumped to park

United States Department of the Interior
NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

IN REPLY REFER TO:

D5039 (MEVE-MAINT)

January 7, 1985

Memorandum

To: Regional Director, Rocky Mountain Region
Attention: Engineering and Maintenance

From: Superintendent, Mesa Verde National Park

Subject: Water Pumped to Park

Total water pumped to park in 1984 from 1 January 1984 to 31 December 1984:

January	1,977,600
February	1,340,300
March	853,000
April	1,405,300
May	1,851,700
June	3,482,600
July	4,709,600
August	5,023,500
September	3,573,500
October	2,159,100
November	1,304,100
December	1,021,800
Total	28,701,100

Robert C. Heyder
Superintendent



01-09-1984: letter to engineering and maintenance from water treatment plant operator regarding water pumped to park

United States Department of the Interior
NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

1983

IN REPLY REFER TO:

D5039 (MEVE-MAINT)

January 9, 1984

To: Mike Williams, Engineering and Maintenance, RMR

From: Water Treatment Plant Operator, Mesa Verde National Park

Subject: Water Pumped to Park

Water pumped to park:

1-31	Jan	0 gals
8-28	Feb	1,291,500 gals
1-31	March	2,019,400 gals
1-30	April	1,760,900 gals
1-31	May	1,780,200 gals
1-30	June	3,861,300 gals
1-31	July	4,109,200 gals
1-31	Aug	3,997,100 gals
1-30	Sept	2,448,100 gals
1-31	Oct	2,937,900 gals
1-30	Nov	1,138,400 gals
1-31	Dec	1,136,100 gals
	Total	26,480,100 gals

Donald B. McAnally

cc: Superintendent

Year of the Visitor

8 Dec 1983

SUBJECT: Water Usage Report

TO: Mancos Water Conservancy

The total water usage for Mesa Verde National Park was reported to Glen Humiston on 4 Dec 83. The amount used was estimated because the raw water meter is inoperative.

The estimation was as follows:

The amount of water pumped to the park from 1 Nov 82 to 31 Oct 83 was	$26,464,900 gals.
The amount used to backwash the filter was	912,500 gals.
Water used for mixing chemicals was	54,750 gals.
The amount being wasted to drain during winter months was	1,567,850 gals.
Total	29,000,000 gals.

Donald B. McAnally

Donald B. McAnally

00-00-0000: chart: visitors to mesa verde national park 1981-2000

VISITORS TO MESA VERDE NATIONAL PARK

1981 - 2000

YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
1981	3,424	1,808	3,200	12,104	65,443	108,301	141,882	130,318	77,007	35,166	7,378	2,816	588,847
1982	1,200	1,872	5,552	13,090	57,751	117,150	146,716	141,005	73,581	32,393	9,010	3,648	602,968
1983	3,584	3,200	7,680	14,620	65,574	108,195	141,833	130,249	79,709	38,707	8,364	2,400	604,115
1984	2,528	3,078	8,663	14,269	47,117	92,120	117,588	120,858	72,038	26,087	7,636	4,883	516,865
1985	5,346	4,628	10,218	20,971	65,931	117,501	155,297	139,039	82,706	36,328	11,246	7,060	656,271
1986	7,497	4,799	16,430	20,449	66,006	111,035	154,908	147,714	81,425	33,974	7,980	6,670	658,887
1987	4,386	4,441	9,726	23,938	75,867	125,223	165,166	156,573	101,517	45,013	12,266	4,450	728,569
1988	3,753	5,577	14,533	26,583	79,298	128,602	172,929	164,245	108,421	52,549	10,617	5,076	772,183
1989	2,990	3,401	14,593	21,683	57,557	111,661	128,270	134,791*	70,471*				
1990													
1991													
1992													
1993													
1994													
1995													
1996		* Added after sent to Alice											
1997													
1998													
999													
000													

00-00-0000: chart: visitors to mesa verde national park 1961-1980

VISITORS TO MESA VERDE NATIONAL PARK

1961 - 1980

YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
1961	1,529	1,272	2,373	5,321	15,868	39,749	59,486	64,977	24,556	9,127	2,299	1,101	227,658
1962	1,356	1,615	2,385	7,515	16,323	46,143	65,907	71,542	31,040	11,768	3,949	2,507	262,250
1963	1,322	2,028	3,656	9,100	18,448	59,491	81,401	89,326	35,428	16,681	5,005	3,420	325,306
1964	2,284	2,419	4,409	7,154	21,215	67,157	87,471	95,826	37,533	13,648	2,784	2,544	344,444
1965	1,801	1,570	3,022	6,207	20,435	71,096	101,891	112,490	39,236	13,743	4,611	2,176	378,278
1966	1,599	1,663	3,849	9,950	26,916	79,331	112,422	121,852	44,369	14,094	4,832	2,489	423,366
1967	1,753	2,150	7,222	10,414	25,554	82,493	117,401	122,550	43,764	16,231	4,493	958	434,983
1968	1,203	2,057	4,328	9,948	25,674	88,189	120,073	132,190	45,646	16,324	3,196	934	449,762
1969	1,062	510	3,023	13,311	31,055	98,957	138,276	147,654	54,004	17,839	5,079	3,001	513,771
1970	2,340	2,740	6,296	9,266	33,601	104,104	145,829	140,967	58,042	16,817	4,991	2,214	527,207
1971	1,741	2,220	6,553	16,041	34,408	98,249	137,558	140,970	59,014	16,561	4,168	979	518,462
1972	1,414	2,488	7,806	15,536	44,525	115,038	137,567	135,747	60,453	21,341	2,393	1,978	546,286
1973	2,369	2,013	5,242	10,321	37,278	97,609	122,566	124,109	51,202	21,655	6,718	1,769	482,851
1974	346	477	3,188	10,683	39,988	80,519	111,229	121,955	48,288	19,139	6,599	2,979	445,390
1975	2,042	1,999	6,481	11,417	47,326	119,782	167,283	154,781	67,249	26,687	6,643	2,839	614,529
1976	2,742	2,969	7,341	16,592	58,539	131,829	165,456	173,308	74,404	29,314	8,806	5,635	676,935
1977	1,792	3,520	8,063	19,215	58,964	121,609	173,442	152,461	77,015	37,485	8,160	3,168	664,894
1978	2,304	2,016	8,422	14,763	57,218	116,289	174,671	153,792	79,559	35,905	7,387	1,840	654,166
1979	1,664	1,840	6,368	12,209	1,757	87,799	123,824	123,628	70,939	34,938	6,375	3,136	474,477
1980	1,488	1,152	3,411	10,747	49,804	98,701	131,609	133,424	68,558	30,879	7,245	3,808	540,826

00-00-0000: chart: visitors to mesa verde national park 1941-1960

VISITORS TO MESA VERDE NATIONAL PARK

1941 - 1960

YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
1941	51	89	106	443	2,697	6,552	10,857	14,857	4,494	1,462	701	97	42,406
1942	69	70	71	190	925	2,765	3,065	3,499	1,696	450	238	7	13,045
1943	51	114	58	122	500	566	912	1,233	604	256	153	52	4,621
1944	41	45	59	186	339	704	1,111	1,634	793	364	203	82	5,561
1945	19	38	48	132	605	1,410	1,858	3,900	2,904	1,415	497	168	12,994
1946	106	191	348	1,108	3,175	6,043	9,758	11,910	5,288	1,617	166	133	39,843
1947	62	160	409	869	4,265	8,200	13,177	17,033	6,134	2,136	347	183	52,975
1948	153	82	156	796	4,754	9,904	14,190	18,325	8,003	2,568	326	105	59,362
1949	13	16	186	712	5,420	12,923	20,229	23,947	11,334	2,419	662	163	78,024
1950	83	201	612	2,078	6,747	15,572	22,695	24,593	10,993	3,539	740	331	88,184
1951	125	201	772	2,127	6,328	18,250	23,155	31,199	13,480	2,819	758	95	99,309
1952	40	97	246	1,364	7,393	18,432	28,061	33,964	10,718	4,788	519	78	105,700
1953	214	779	1,953	2,611	9,216	25,547	32,125	37,222	17,844	6,379	1,516	717	136,123
1954	1,055	1,536	1,773	4,616	10,015	25,097	34,357	40,909	16,778	10,003	2,855	1,336	150,330
1955	1,108	666	1,998	4,335	11,883	25,921	38,813	43,594	19,624	9,192	2,871	1,298	161,303
1956	1,523	796	3,003	6,160	12,977	32,037	44,612	51,067	21,676	8,136	2,873	1,948	186,808
1957	891	1,281	2,981	3,710	12,589	34,837	49,115	56,730	21,408	6,818	1,952	1,615	193,927
1958	1,195	1,897	2,370	4,534	14,165	34,338	53,585	60,055	17,864	7,123	2,631	1,588	201,345
1959	1,018	871	3,468	5,095	15,985	36,675	56,275	64,601	25,257	5,385	1,786	941	217,357
1960	535	533	1,992	8,247	16,093	36,549	59,903	63,075	24,005	9,787	3,703	1,286	225,708

00-00-0000: list of visitors to mesa verde national park 1906-1956

MESA VERDE NATIONAL PARK

Year	Visitors	Year	Visitors	Year	Visitors
1906	No record	1930	16,741	1954	150,330
1907	No record	1931	17,896	1955	161,303
1908	80	1932	15,885	1956	186,808
1909	165	1933	16,244		
1910	250	1934	21,855		
1911	206	1935	21,787		
1912	230	1936	25,580		
1913	280	1937	28,165		
1914	502	1938	31,239		
1915	663	1939	32,843		
1916	1,385	1940	36,172		
1917	2,223	1941	42,406		
1918	2,058	1942	13,045		
1919	2,287	1943	4,621		
1920	2,890	1944	5,561		
1921	3,003	1945	12,994		
1922	4,251	1946	39,843		
1923	5,236	1947	52,975		
1924	7,109	1948	59,362		
1925	9,034	1949	78,024		
1926	11,600	1950	88,184		
1927	12,005	1951	99,309		
1928	16,872	1952	105,700		
1929	14,542	1953	136,123		

Other Supporting Information

United States Department of the Interior

NATIONAL PARK SERVICE
Mesa Verde National Park
Colorado 81330

IN REPLY REFER TO:

L54(2380)
MEVE/Water Rights
HOVE/Water Rights

July 21, 1997

JUL 1997
RECEIVED
WRD - FT COLLINS

Memorandum

To: Regional Director, Intermountain Region

From: Superintendent, Mesa Verde National Park

Subject: Proposed Decrees for Water Rights at Mesa Verde National Park and Hovenweep National Monument

Under separate cover from Water Rights Division are copies of the proposed decrees concerning reserved and state appropriative water rights of the United States at Mesa Verde National Park and Hovenweep National Monument. The decrees are simultaneously being sent, with recommendations for approval, to the Washington offices of the Department of Justice (DoJ) and the Office of the Solicitor from their respective field offices. These decrees are the product of seven years of negotiation.

The Water Rights Branch of the Water Resources Division has worked with the DoJ to resolve the concerns of the objectors in these cases. The State of Colorado, Dolores Water Conservancy District, Southwestern Water Conservation District, La Plata Water Conservancy District, and the Mancos Water Conservancy District has consented the entry of these decrees. Other objectors are expected to agree to the proposed decrees and Lynn Johnson, Attorney, DoJ, is recommending submission to the District Court, Water Division Number 7, for approval and entry.

These decrees are the culmination of many years of work and discussion with the State of Colorado and are of great significance to the NPS because, aside from avoiding litigation, they secure an instream flow for the Mancos River within Mesa Verde, protect the natural flows of springs within Mesa Verde and Hovenweep, and assure water for present and future administrative and visitor uses for both park units.

I am satisfied with the provisions of these decrees and believe that the mission of the NPS is well served by these decrees. I,

therefore, agree with the DoJ recommendation to submit these decrees to the Water Court.

Larry T. Wiese
Superintendent

cc: IMRO - Reynolds, Huff
CPSO - Wise
WRD - Kimball, McGlothlin, Hansen
SOL (Washington) - Watts, Hanslin
SOL (Denver) - Guy, Fahmy
DoJ - Johnson

Author: Bob Reynolds at NP-DENVER
Date: 7/28/97 11:25 AM
Priority: Normal
TO: Bill Hansen at NP-WASO-WR
TO: Larry Wiese at NP-MEVE
Subject: Proposed Water Right Decrees

---------- Message Contents ----------

We have reviewed the Proposed Water Rights Decrees for MEVE and HOVE and agree that the NPS will be well served by these decrees and agree with submittal of them to the Water Court.

Thank you for the excellent work.

Bob Reynolds
Deputy Director, Colorado Plateau

Dan McGlothlin
Acting 7/24/97

Dan B. Kimball
DBK

W.R. Hansen WRH

July 22, 1997

L54(2380)
MEVE/Water Rights
HOVE/Water Rights

Memorandum

To: Director, Intermountain Regional

Through: Chief, Water Resources Division

From: Chief, Water Rights Branch

Subject: Proposed Water Rights Decrees for Mesa Verde National Park and Hovenweep National Monument

Please find attached copies of the proposed water rights decrees for Mesa Verde National Park and Hovenweep National Monument. The copies are being provided, at the request of Larry Wiese, for your review and approval prior to submittal to the Water Division 7 Court by Lynn Johnson, Department of Justice. Superintendent Wiese is forwarding a letter to you under separate cover which describes the components of the decrees and the expected resource benefits.

If you have any questions regarding the decrees please contact Bill Hansen, of my staff, at (970) 225-3532.

Attachments

cc: (w/o attachments)
MEVE - Superintendent
SOL - Fahmy
DoJ - Johnson
FNP:BHANSEN:ccd:225-3532:7/22/97:S:\WRB\WRH\COOKLET.MEV

United States Department of the Interior

OFFICE OF THE SOLICITOR
ROCKY MOUNTAIN REGION
755 PARFET STREET, SUITE 151
LAKEWOOD, CO 80215

TELE. (303) 231-5353
FAX (303) 231-5363

July 22, 1997

NPS.RM.2847

Lynn Johnson
U.S. Department of Justice
Environment and Natural Resources Division
999 Eighteenth Street
Suite 945, North Tower
Denver, CO 80202

Re: Proposed Decree for Mesa Verde National Park

Dear Lynn:

I have reviewed the proposed water rights decree for Mesa Verde National Park and have consulted with the National Park Service regarding its terms and conditions. The proposed decree appears to adequately preserve and protect the park's water rights and water-related resources. Additionally, the proposed decree sets aside sufficient water to meet future administrative and visitor service uses. Therefore, on behalf of the National Park Service, I hereby authorize you to submit the proposed water rights decree for Mesa Verde National Park to the Division 7 water court for approval and entry. Thank you for your diligent assistence in quantifying the federal reserved water rights of Mesa Verde National Park.

Cordially yours,

Peter A. Fahmy
Water Rights Attorney

cc: Dan McGlothlin (Acting Branch Chief, Water Rights Branch)
Bill Hansen (Hydrologist, Water Rights Branch)
Curtis Menefee (Assistant Regional Solicitor, Denver, CO)

After revision by OW
2/12/90

BRIEFING PAPER

MESA VERDE WATER RIGHTS ADJUDICATION
TREATMENT OF THE MANCOS RIVER

ISSUE

In proceeding with litigation, the Department of Justice (DOJ) must assess the soundness of making a claim to Federal reserved water rights for instream flows in the Mancos River at Mesa Verde National Park (MEVE) in the adjudication of water rights in Colorado's Water Division 7 (WD-7).

BACKGROUND

Water Division 7 Adjudication

On January 2, 1973, the United States was joined under the McCarran Amendment (43 Stat. 666) as a party in the general adjudication of water rights in WD-7. In 1976, the United States submitted claims for Federal reserved and State appropriative water rights for Mesa Verde National Park.

The United States' applications were stayed in 1977, pending the outcome of United States v. Denver, 656 P.2d1 (1982) which involved similar issues concerning Federal reserved water rights in Water Divisions 4, 5, and 6 including Dinosaur National Monument.

In September, 1988, the DOJ received a court order to show just cause why the United States' cases involving MEVE should not go forward. As a result, the United States is actively preparing for litigation, including the examination of alternative litigation strategies.

Pertinent Enabling Legislation

MEVE was established on June 29, 1906, (34 Stat. 616) "for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric and primitive man within said park". On June 30, 1913, the boundaries of MEVE were extended to include the Mancos River (38 Stat. 82).

The Act of April 25, 1928 (45 Stat. 458) to accept the cession by the State of Colorado of exclusive jurisdiction over the land embraced within MEVE, and for other purposes, required the Secretary of the Interior to "...make and publish such general rules and regulations as he may deem necessary and proper for the management and care of the park and for the protection of

property therein, especially for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man, all timber, natural curiosities, or wonderful objects within said park, and for the protection of the animals and birds in the park from capture or destruction, and to prevent their being frightened or driven from the park; and he shall make rules and regulations governing the taking of fish from the streams or lakes in the park".

The boundaries of MEVE were further amended by the Act of December 23, 1963 (77 Stat. 473) which required the National Park Service to administer lands "in accordance with the Act entitled An Act to Establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat. 535), as amended and supplemented (16 U.S.C. 1 et seq.).

Land Status

The eastern boundary of MEVE is delineated by about 4 miles of the eastern bank of the Mancos River (Exhibit A). Of these, approximately 1.9 miles are on reserved lands.

Resource Values

The Mancos River Valley within the park contains some small ruins, none of which have been excavated. There are no designated trails to the valley and back country, and public visitation to the Mancos River Valley is prohibited to protect the ruins. The River valley, which provides habitat for a variety of flora and fauna not found elsewhere in MEVE, is presently being impacted by trespass livestock grazing.

Existing Administrative Water Uses

Water supplies for existing administrative uses are imported from national forest land by means of the 26-mile Mesa Verde Pipeline. Rights for this water were decreed in 1963 and permit direct flow or use of 120 acre-feet of water per annum from the West Mancos River. This water may alternatively be delivered through compensatory exchange releases from Jackson Gulch Reservoir.

Mancos River Mean Annual Flows

Long term flow data exist for 2 gaging stations on the Mancos River; one near Mancos and another at Towoac, Colorado. For the period 1972 - 1985, mean annual discharge for the Mancos River near Mancos was 31,417 acre-feet. Flow records exist for Towoac dating to the 1920's. The mean annual discharge at Towoac for the period of record was 38,370 acre-feet per year and for the period 1972 - 1985 was 43,955 acre-feet. There are no gage data within the boundaries of MEVE.

Mancos River Water Diversions and Downstream Compacts

There are approximately 20 State recognized water diversions between the Mancos River gage near Mancos and the MEVE boundary. State records indicate that diversions of 14,638 and 12,635 acre-feet were made from 13 and 12 diversions in water years 1987 and 1988, respectively. There are no known private diversions on the Mancos River between the northeast boundary of MEVE and the northern boundary of the Ute Mountain Indian Reservation.

Mancos River diversions occur downstream of MEVE on the Ute Mountain Indian Reservation. The Indians have a recognized water right on the Mancos for 21,000 acre-feet per year. This water right was originally claimed with an 1868 priority date. This was subordinated to a 1985 priority date during negotiations with the State for Bureau of Reclamation project waters.

There are no interstate compacts specifically addressing flows of the Mancos River between Colorado and Arizona or Utah.

United States v. Denver Decision

In the adjudication of Colorado's Water Divisions 4, 5, and 6 (United States v. Denver (656 P.2d1)), the United States claimed reserved instream flow water rights in the Yampa River for, among other things, recreational boating within Dinosaur National Monument (DINO). The Federal Government argued that the National Park Service Act of 1916 provided the basis for its claims.

In 1982, the Colorado Supreme Court determined that it "must look to the purposes for which the monument was established, not to the purposes for which national parks were established, in determining the necessity for reserved water rights". In so doing, the Court recognized a "fundamental difference between park lands and monument lands". Looking to this decision, it appears that the United States could arguably claim Federal reserved water rights in the Mancos River, within MEVE, for the purposes defined by both the enabling legislation and the National Park Service Act of 1916 (16 U.S.C. 1).

STATUS

To date, the United States has not been required to provide the court with evidence to support its claims in the WD-7 adjudication. The court will likely request such in the near future. Initial work to provide evidence has been completed by the Water Resources Division along with alternative draft Decrees for Federal reserved and State appropriative water rights for use either in the event of litigation or in the event of parties seeking resolution outside of litigation. One alternative draft Decree claims instream flows for the Mancos River of 30,936 acre-

feet per year for the protection and preservation of all timber, natural curiosities, wonderful objects, animals and birds, and the purposes defined in 16 U.S.C. 1.

DOJ attorney Lynn Johnson, in discussions with State counsel, was informed that the State would be willing to withdraw opposition to U.S. water rights claims for surface and ground water at MEVE if, and only if, claims **did not** include the Mancos River.

MEVE BRIEFING February 9, 1990

The following is a brief summary of flow information for the Mancos River in Mesa Verde National Park:

- No gage data exists for the Mancos R. within MEVE boundaries

- The Ute Mountain Ute Indians have a 1985 priority date for 21,000 acre-ft of water from the Mancos River. This was an 1868 priority date subordinated to 1985.

Water Div Eng (WD-7) Chuck Lyle

- The Ute Mountain Utes are guaranteed the following amounts of water: From the Delores Project; 1,000 acre-ft for municipal uses, 23,300 acre-ft for irrigation, and 800 acre-ft for fish and wildlife. From the Animas-La Plata Project; 6,000 acre-ft for municipal/industrial uses, and 26,300 acre-ft for irrigation. 25,100 32,300

- There are no private diversions downstream of the MEVE boundary on the Mancos R., just a few Ute Indian diversions.

- There are no specific agreements with any other States (AZ or UT) for Mancos River water.

- Between the Mancos River near Mancos, CO gaging station and the MEVE boundary, there exists 20 water diversions listed with the State. For the 1987 and 1988 water years, 13 and 12 of the diversions were used respectively, and these withdrew 14,638 acre-ft in 1987, and 12,635 acre-ft in 1988.

- Three gaging stations are/were located on the Mancos River. One is located near Mancos, CO and is now operated by the State. Another station was located at Johnson Canyon below the Park and has about 6 years of data. (This station was moved from above Johnson Canyon to below the Canyon in the middle of this period). The most downstream station is located at Towoac and has a period of record dating back to the 1920's.

- The corrected data available from the State on the Mancos gage at Mancos is from 1972 through 1985. The average flow during this period (excluding 1978 and 1985) is 31,417 acre-ft/year.

- The average flows at Towoac during this time period were 43,955 acre-ft/year. The period of record average flow for this station is 38,370 acre-ft/year.

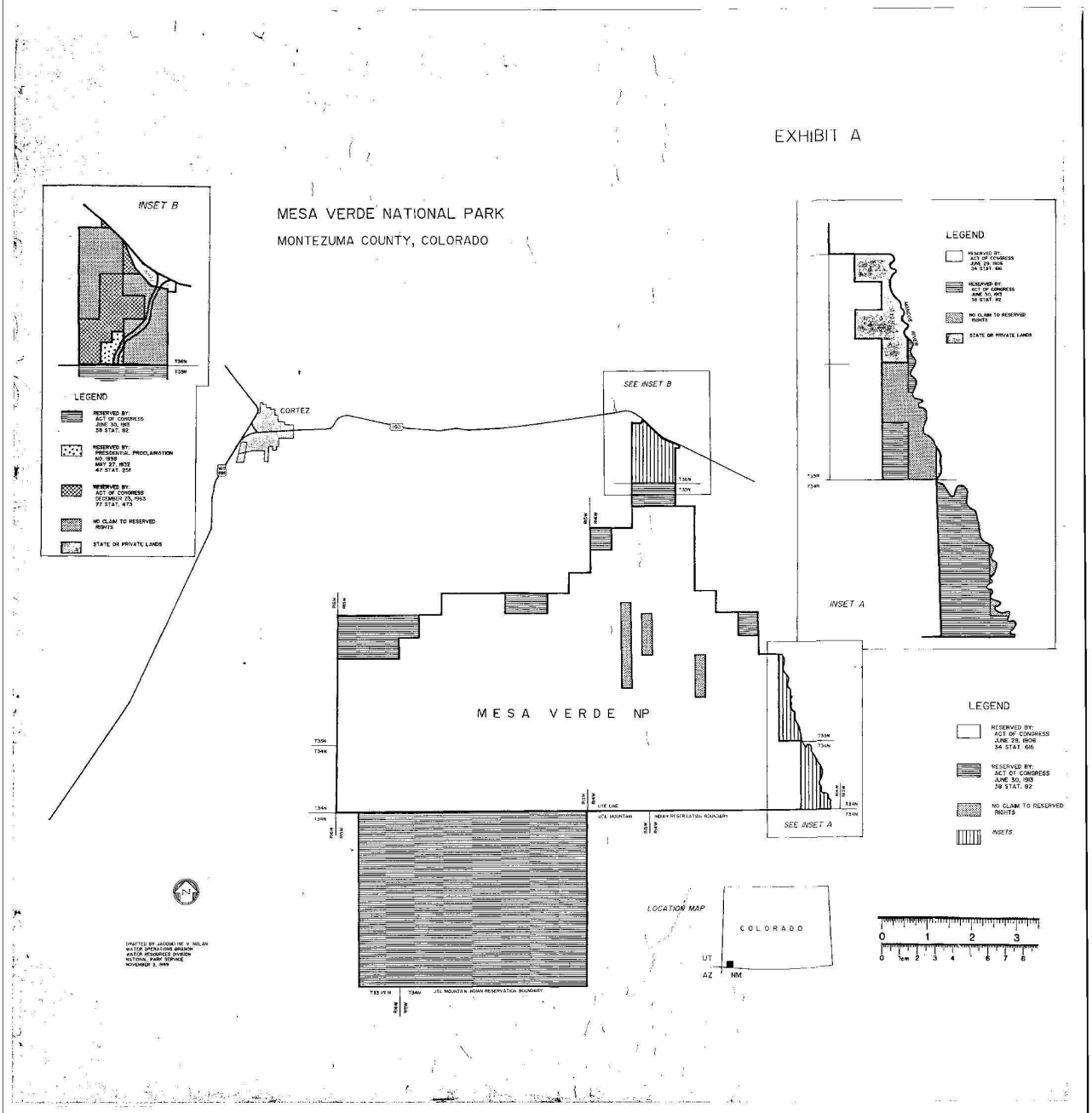
- The flows claimed for MEVE at the Mancos R. are 30,936 acre-ft/year. This amount was derived by a regression analysis using discharge/drainage area data from the gages at Mancos, Johnson Canyon, and Towoac.

00-00-0000: handwritten: list of names, who they represent, and phone #

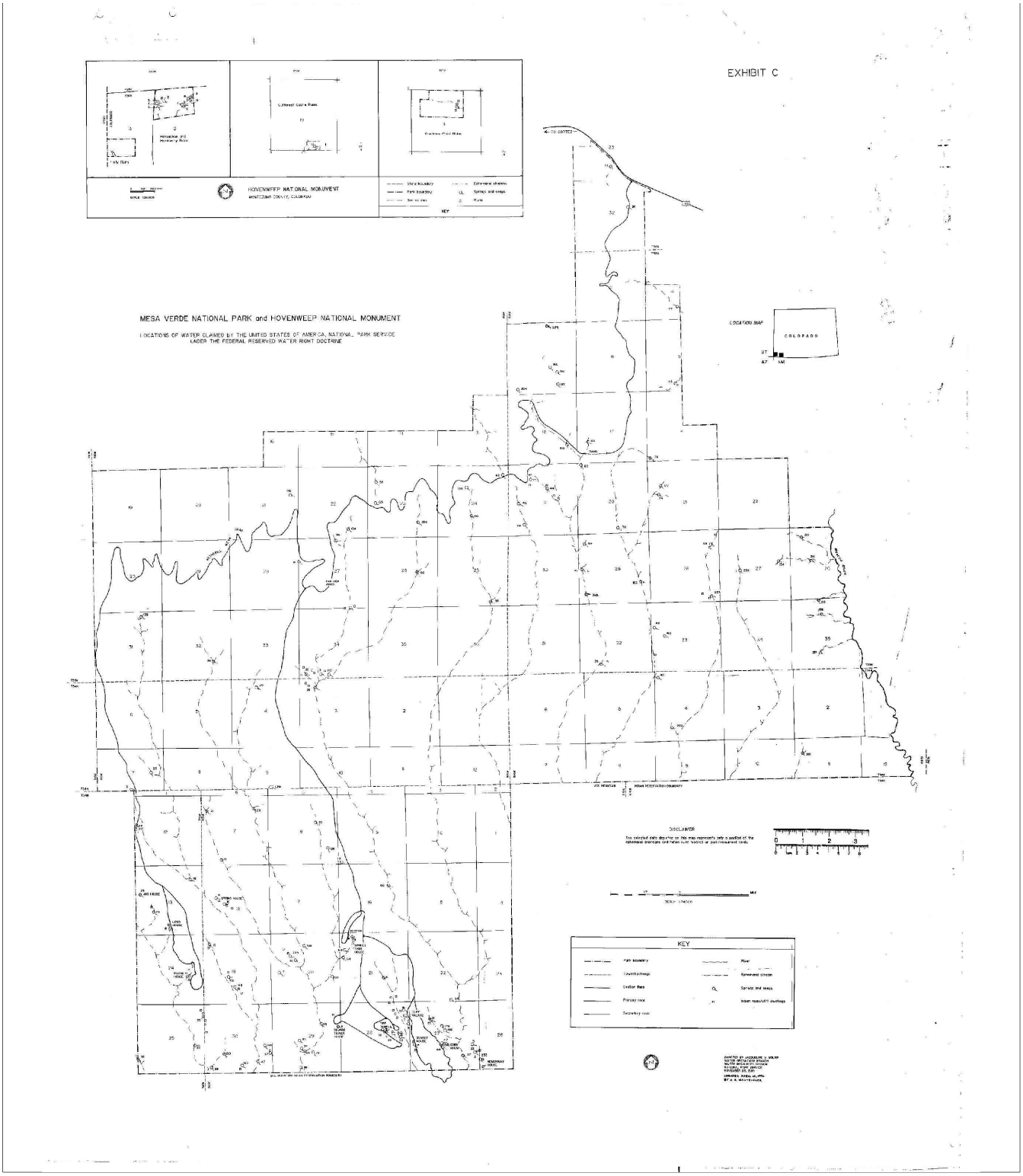
Name	Representing	Phone No.
Lars Hanslin	DOI/SOL	202 343 7957
STAN PONCE	NPS/WRD	221-8305
Owen Williams	NPS/WRD	221-8301
Homer L. Rouse	NPS/RMR	969-2600
Bill Hansen	NPS/WRD	221-8333
Dan McGlothlin	NPS/WRD	221-8336
John Hill	DOJ	844-2892
RON HERMANCE	RMR-MR	969-2654
Robert C. Heyder	New Vada	529-4466
Dan Luft	NPS/RMR/MR	969-2651
Lorraine Mintzmyer	NPS/RmR/D	969-2500

Maps and Miscellaneous Information

00-00-0000: location map of meve



11-28-1989: location map of hovenweep n.m. and its relationship to the mancos river system



Docket Information

Number of Documents in Docket 165

Documents Dated from 12/30/1976 to 8/7/1997

Docket Compiled: 5/26/2011