United States Department of the Interior
BUREAU OF RECLAMATION
UPPER COLORADO REGION
WESTERN COLORADO PROJECTS OFFICE
P.O. BOX 1728
GRAND JUNCTION, COLORADO 81501

IN REPLY REFER TO: GJ-151
511.-
Uncompahgre Project

JUN 11 1975

Mr. Rial Lake, President and Executive Secretary
Upper Gunnison River Water Conservancy District
316 North Taylor
Gunnison, Colorado 81230

Dear Mr. Lake:

A Taylor Park Reservoir water storage and exchange agreement has been proposed which will change the operational pattern of Taylor Park Reservoir and flows in the Taylor River. Specifically the agreement concerns water exchange between Taylor Park Reservoir and the Curecanti Unit on the Gunnison River. The Bureau of Reclamation is the responsible agency for construction and operation of the Curecanti Unit and is required to approve any proposed water exchange agreement or change in water use at Taylor Park Reservoir.

Enclosed for your review and comment is a copy of the environmental assessment prepared for the proposed Taylor Park Reservoir Operation and Storage Agreement. This assessment has been prepared in order to identify the environmental impacts resulting from the operational changes proposed in the agreement. Based on our analysis and the comments received, it will be determined if this agreement constitutes a major federal action requiring a formal environmental statement under the 1969 National Environmental Policy Act.

If you have any comments concerning the agreement, particularly its environmental effects, please provide them to this office by July 1, 1975.

Sincerely yours,

Edward K. Wiscombe

Edward K. Wiscombe
Projects Manager

Enclosure

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

ENVIRONMENTAL ASSESSMENT OF
THE TAYLOR PARK RESERVOIR OPERATION AND STORAGE AGREEMENT

A. Description of the Proposal

This assessment has been prepared to evaluate environmental impacts for a proposed agreement concerning flow and storage waters in the Upper Gunnison River drainage. The agreement specifically deals with operation of Taylor Park Reservoir and exhange of water between the Uncompahgre Water Users Association, the Upper Gunnison River Water Conservancy District, and the United States Department of Interior, Bureau of Reclamation. The agreement provides that: 1) the Uncompahgre Water Users may exchange waters from Taylor Park Reservoir for credit in the three reservoirs of the Curecanti Unit of the Colorado River Storage Project; 2) the Uncompahgre Water Users and the United States would coordinate releases of water from the Taylor Park Reservoir for the operational goals of stabilizing Taylor and Gunnison River flows, to provide flood control and irrigation uses, and enhance fishery and recreation uses; 3) no sale, lease, or exchange of water from Taylor Park Reservoir would be made by the Uncompahgre Water Users without written consent of the United States and the Upper Gunnison River Water Conservancy District; and 4) the Upper Gunnison River Water Conservancy District can apply for water rights on surplus flows of the Taylor River above Taylor Park Reservoir, and if these rights are granted, Taylor Park Reservoir would be operated to assist in storage and regulation of these appropriated waters provided original reservoir purposes are accommodated.

Under another agreement the Upper Gunnison River Water Conservancy District has a current water exchange program with the Curecanti Unit.

Construction of the Curecanti Unit provides storage for Gunnison River water and makes possible alternatives in release patterns for stabilization of stream flows in the Taylor River. Since completion of the Blue Mesa Reservoir portion of the Curecanti Unit some adjustments have already been made in Taylor Park Reservoir operation.

Benefits of the proposed agreement would be to stabilize stream flows and establish a flow pattern which would enhance the fishery and recreational uses. These benefits would be derived in conjunction with providing for flood control and irrigation uses. The agreement would also insure a continuity of the federal aid fishery study now being conducted on the Taylor River by the Colorado Division of Wildlife.

The flow pattern changes envisioned, which would enhance the Taylor River stream fishery and recreational uses, would closely resemble the natural flow pattern. This pattern is typified by high spring flows, lower fall flows and uniform winter flows.

Under terms of the agreement the Uncompahgre Water Users would continue to operate Taylor Park Reservoir. Accounting of water exchange and credits would be kept by the United States Bureau of Reclamation. Appendix A is a copy of the Taylor Park Reservoir Operation and Storage Exchange Agreement.

B. Description of the Environment

1. Taylor Park Reservoir

Taylor Park Reservoir is located on the Taylor River 30 miles northeast of Gunnison, Colorado. The reservoir was constructed by the Bureau of Reclamation as part of the Uncompahgre Project. The earth-filled dam creating Taylor Park Reservoir was completed in 1937. The reservoir has a capacity of 106,200 acre-feet, between the bottom of the outlet and crest of the spillway. Project waters are stored and released via the Taylor River to the Gunnison River and then rediverted via the Gunnison Tunnel to the Uncompahgre Project lands. (See Map)

Except for 4 years between 1939 and 1974, Taylor Park Reservoir has always filled to its capacity. During this period of time Taylor Park Reservoir has spilled in excess of 1,000 cfs nine out of the 35 years or approximately one year in four.

There is no designated dead or inactive pool in Taylor Park Reservoir. Prior to completion of Blue Mesa Reservoir (1965) the lowest minimum pool recorded was 8,800 acre-feet on October 19, and 20th, 1956. The highest maximum pool recorded prior to Blue Mesa was 111,000 acre-feet on July 1, 1957, which coincided with the maximum spill of 2,200 cfs.

Since completion of Blue Mesa in October 1965, the operational pattern of Taylor Park Reservoir has changed. With Blue Mesa Reservoir on the Gunnison River much less control is needed from Taylor Park Reservoir since the Taylor River release water passes through, and can be controlled by, Blue Mesa Reservoir. Minimum pool storage in Taylor Park Reservoir has tended to be greater since completion of Blue Mesa Reservoir. The lowest minimum pool since Blue Mesa completion was 33,600 acre-feet recorded on October 31 and November 1, 1970. Highest maximum capacity was 109,400 acre-feet recorded on June 7 through 10, 1972.

Flood storage in Taylor Park Reservoir increased following construction of Blue Mesa Reservoir. Prior to Blue Mesa flood storage in Taylor Park Reservoir was incidental.

Taylor Park Reservoir has been receiving a variety of recreational use over the years. Since construction of Blue Mesa, recreational use has benefited from smaller annual drawdowns of the reservoir. Recreational use of Taylor Park Reservoir includes sightseeing, picnicking, camping, swimming, waterskiiing, boating, fishing and hunting.

Camping and fishing are the primary recreational uses. Estimated visitor day use for 1974 was 23,950 visitor days, (a visitor day is one person staying 12 hours) up slightly from the 23,260, visitor days estimated in 1973. There are two campgrounds, one boat launching ramp and 50 picnic tables at Taylor Park Reservoir. Fish species in Taylor Park Reservoir include rainbow, brook, brown, cutthroat and mackinaw trout; northern pike; kokanee salmon; and suckers. Rainbow trout, stocked annually by the Colorado Division of Wildlife, comprise the bulk of the sport fish catch. In 1974 20,000 pounds of catachable rainbow trout and 300,000 two inch fingerling rainbow trout were stocked. Kokanee salmon were introduced into a tributary of the reservoir and provided some fishery to the reservoir after they moved downstream.

2. Taylor River

The main Taylor River is 20 miles in length located between Taylor Park Dam and Almont, Colorado. The river is characterized by flows ranging between 0 and 2,270 cfs. It's 6% gradient cause much swift white water.

The Taylor River immediately downstream of Taylor Park Reservoir has a channel capacity of approximately 1,000 cfs without flooding. Highest instantaneous discharge from Taylor Park was 2,270 cfs on July 1, 1957. After Taylor Park Reservoir and before construction of Blue Mesa Reservoir 61 days of flooding occurred during 27 years of records. After completion of Blue Mesa Reservoir even though average yearly discharges from Taylor Park were higher, 8 year average discharge of 150,600 acre-feet, as compared to a 27 year average discharge of 141,200 acre-feet before Blue Mesa Reservoir, no days of flooding have been recorded.

On a number of occassions after construction of Taylor Park Reservoir and before Blue Mesa Reservoir was completed a minimum streamflow of zero was recorded for the Taylor River below Taylor Park Dam. After completion of Blue Mesa Reservoir, 1966-1973, a mimimum daily flow of 19 ~~cfs~~ was recorded.

The Taylor River has had three types of flow patterns in recent history: 1) natural conditions without Taylor Park Reservoir, 2) with Taylor Park Reservoir, and 3) with Taylor Park and Blue Mesa Reservoirs. Average flows for each of these conditions can be seen in Figure (1). Under natural conditions, determined from reservoir inflow data, the highest flows in the Taylor River occurred during the May-June spring runoff period. Low flows occurred from November through March. With just Taylor Park Reservoir operating, peak flow months occurred in August and September and low flows in the same November through March peroid as under natural conditions. But flows during the low flow period averaged less than under natural conditions.

After the construction of Blue Mesa Reservoir the same general high flow months existed as before Blue Mesa, however, the magnitude of the flow is reduced and the flows are spread out more evenly throughout the year. Low flows averaged higher and were of a shorter duration.

Approximately one half of the Taylor River is open to public fishing and there are numerous Forest Service campgrounds and picnic areas along the river. The river is paralleled by State Highway 306 which is paved for the entire 20 miles. Forest Service use figures for the Taylor Canyon in 1971: fishermen use - 2,075 visitor day (a visitor day is one person staying 12 hours), fishermen visits - 8,300, and picnic and campground use in developed sites - 46,500 visitor days.

The river has recently received considerable use by white water boaters.

The stream fishery on the Taylor River can be rated as good with substantial fishermen use. The stream is stocked annually by the Colorado Division of Wildlife. In 1973, 4,300 pounds of catchable rainbow trout were stocked. The Colorado Division of Wildlife conducted a creel census program during July, August and September of 1973 at three heavy use locations on the Taylor River. Census area at each location covered approximately one kilometer of stream. This data can not be expanded to use-figures for the entire river but is indicative of the heavy use areas. In these three areas for the three summer months an estimated 6,240 fisherman fished 4,792 hours and had a catch rate of 0.53 fish per hour. This catch rate is about the state average for streams. Nonresident fishermen as well as residents use the Taylor River. In the 1973 Colorado Division of Wildlife creel census study residents from 28 states were contacted. Fish species creeled were almost entirely rainbow and brown trout, approximately 70 and 30 percent respectively. Other fish present in the river included cutthroat trout, brook trout, and suckers. An occassional mackinaw trout (lake trout) or northern pike is found in the river. These fish move into the river from Taylor Park Reservoir. A fair spawining run of kokanee salmon from Blue Mesa Reservoir also has become established in the Taylor River.

The water chemistry and bottom fauna of the Taylor River are generally consistent with other trout streams of the area. The temperature profiles, in general, show a low mean temperature as a result of cold water releases from the dam and the steep canyon topography. The canyon topography has the greatest influence on stream temperatures.

C. Environmental Impacts of Proposed Action

With the proposed agreement the primary environmental impact would be in the operational pattern of Taylor Park Reservoir and subsequent

Taylor River flow patterns. Under this agreement Taylor Park water would be released according to an established schedule. The most likely change would be to effect a more uniform stream flow into the Taylor River over the entire year and the elimination of abrupt flow changes. The flow pattern would resemble more the natural condition with high river flows in May and June, not in August and September as occurs under present reservoir operation. These changed flow patterns would provide a benefit to the present fishery study being conducted by the Colorado Division of Wildlife. Other benefits would include a probable increased fish production and increased recreational potential for the Taylor River.

Another possible environmental impact of the agreement would result from the clause which specifies a water exchange agreement between the Upper Gunnison River Conservancy District and the Uncompahgre Water Users Association. This clause would permit the Upper Gunnison District to exchange any aquired water from the Upper Taylor River for Taylor Park water and in turn for Blue Mesa water. Thus, the Upper Gunnison River Conservancy District could, if granted a water right on the Upper Taylor River, take more water from the Gunnison River. This may in effect reduce flows in the Gunnison River above Blue Mesa Reservoir.

With the proposed change in the flow pattern of the Taylor River there would be an associated effect on the storage level of Taylor Park Reservoir. Because high spring flows would be, to some degree, passed on down the Taylor River there would be less water in the reservoir during the July - August recreation period. This could have a negative effect on boating, waterskiing, fishing and other water based reservoir recreation. However, under the proposed flow regime there would be a significant decrease in reservoir level fluctuation which would have a significant beneficial effect on recreation and aquatic biota. The reservoir would probably not fill to maximum capacity as often under the changed flow regime.

Following construction of Blue Mesa Reservoir the total storage capabilities of Taylor Park Reservoir were not needed for the original purpose of storing irrigation waters. Thus, this agreement would formalize in writing the beneficial use of Taylor Park Reservoir, storage and operation, as a benefit to stream recreation, the stream fishery and flood control. Showing beneficial use of the reservoir storage would prevent the possible loss of water to other uses.

D. Alternatives

The primary alternative for this agreement is for the United States Bureau of Reclamation not to sign it. Without this agreement the operation

of Taylor Park Reservoir and flows in the Taylor River would remain essentially the same as they have since completion of Blue Mesa Reservoir. Recreation, fisheries, and flood control would not formally be considered as a beneficial use of the storage and operation of Taylor Park Reservoir.

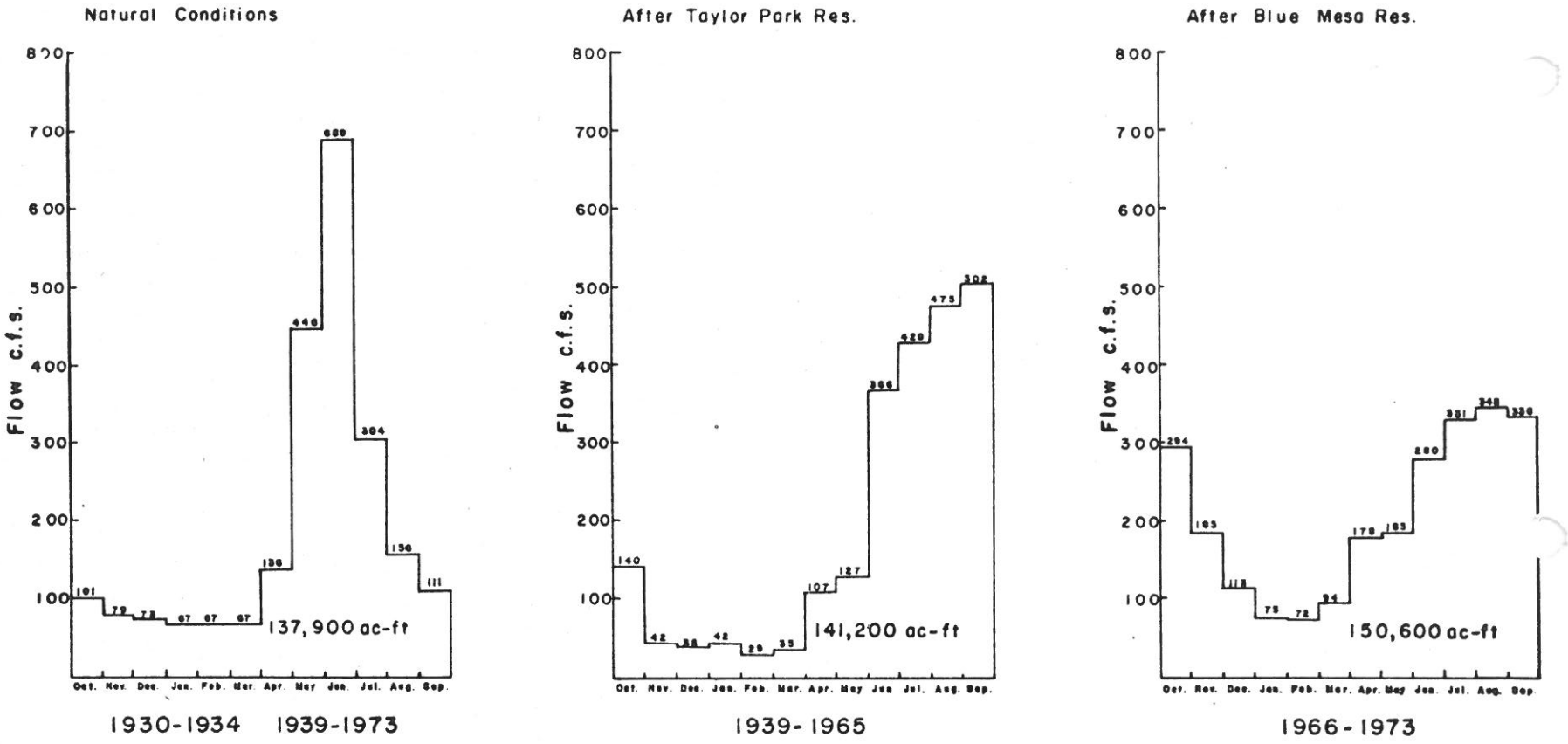
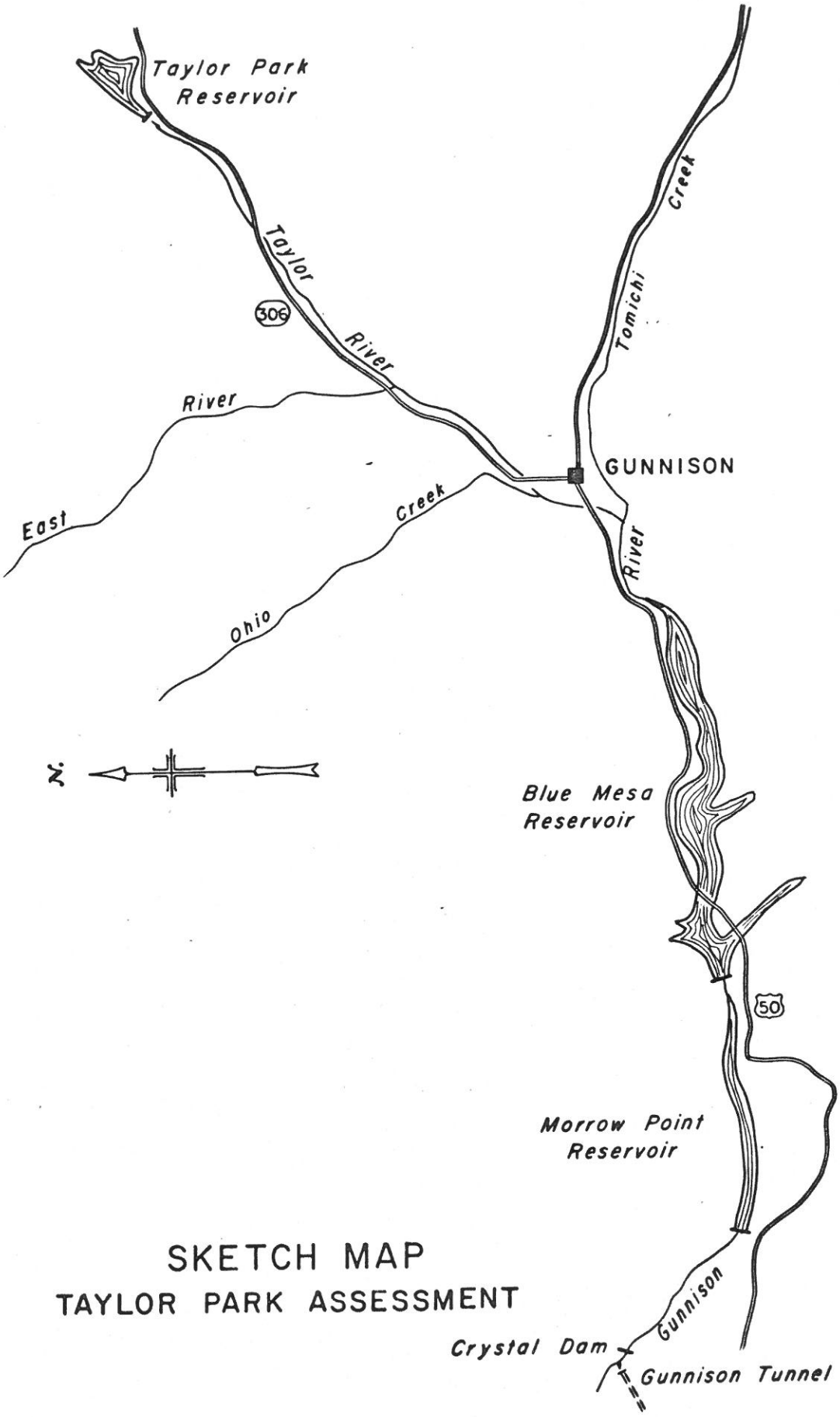


Figure I. Average stream flow of Taylor River downstream from Taylor Park Reservoir



SKETCH MAP
TAYLOR PARK ASSESSMENT