

Why the Colorado River should flow freely

THROUGH 186-MILE GLEN CANYON:

In 1956, amid fierce political battles over Southwest water, Glen Canyon on the Colorado River was denied environmental protection.

This tragic mistake has been regretted since by many of the key figures involved, from then Sierra Club Executive Director David Brower to former Arizona Senator Barry Goldwater. The gates of Glen Canyon Dam shut in 1963. By 1980, Powell Reservoir had drowned 186 miles of the most beautiful canyonlands on the planet and radically altered the river ecosystem in Grand Canyon.

A generation later, the bad news is that Glen Canyon Dam, far from living up to its original claims, has wreaked environmental havoc from upper Glen Canyon through the Grand Canyon all the way to the Gulf of California in ways unanticipated or grossly underestimated 50 years ago.

The good news? This is one environmental error we can actually remedy.

If we start draining Powell Reservoir now, a free-flowing Colorado River still has time to restore Glen Canyon, with benefits accruing to the Grand Canyon and beyond. Under proposals now being developed, 710-foot-high Glen Canyon Dam itself would remain standing as a monument to the human capacity to learn from our mistakes — and as testimony upstream and down to nature's miraculous resilience.

While this project will require further research and planning, we already have the answers to many of the questions asked most often.

Isn't it too late to restore Glen Canyon?

Once the reservoir is drained, a free-flowing Colorado will carry away much of the sediment accumulated in the upper channels. Riparian habitat will start to recover immediately. Garbage dumped overboard by recreational boaters on Powell Reservoir will have to be removed, but the river will largely repair itself. Experience in the Escalante drainage suggests that the reservoir's "bathtub ring" will fade. Time does matter, however. Fuel pollution of over a million gallons a year and corroding batteries add toxics to reservoir silt. The longer this pollution goes on, the more difficult the canyon's recovery. Mounting sediment, projected to block some of the dam's main valves by the end of this century, will also affect beautiful side canyons now largely clear. We should act now.

Won't the water stored in Powell Reservoir be missed?

It already is. Powell Reservoir — intended as dry-year insurance only — provides little additional water to users downstream. On average, draining Powell would decrease downstream deliveries by only 1.15 percent annually. It is estimated that Powell Reservoir loses over 882,000 acre-feet of water annually from evaporation and seepage into the sandstone. (An acre-foot is the amount of water necessary to cover an acre with a foot of water.) This is approximately 6.3 percent of the average annual flow of the Colorado River, and nearly 3 times Nevada's share of Colorado River water. When the river flows freely again through Glen Canyon, evaporation will decrease, and that water could be put to good use downstream, for example, helping restore the habitats of the Colorado River Delta and the Gulf of California.

How would Glen Canyon Dam's electricity be replaced?

Energy conservation measures would easily make up for any loss of power from Glen Canyon's turbines. The total loss of hydropower generated as a result of draining Powell Reservoir is projected to be about three percent of the electricity generated in the four state area (Colorado, Utah, Arizona and New Mexico) where most of Glen Canyon Dam's power is consumed. There is now a surplus of power from other sources on this grid; new, polluting power sources would not be required.

Isn't Glen Canyon dam necessary for "flood" control?

Floods are critical to the health of the Colorado River ecosystem. The dam has increased plant and animal diversity downstream as a result of a changed flow regime. But while diversity may have increased, it is based on exotics and non-sustainable populations. The native fish, plants and animals that evolved with the river are being harmed, while introduced species such as trout (a cold water species that never would have existed in the warm, muddy Colorado before the dam) are being encouraged. As siltation continues to decrease the reservoir's capacity, the likelihood of catastrophic flooding due to dam failure actually increases. In 1983, the spillways at Glen Canyon Dam were seriously damaged in a relatively small flood of 120,000 cubic feet per second (cfs), only 28,000 cfs above the average annual pre-dam spring flood.

What will happen to the reservoir's visitor industry?

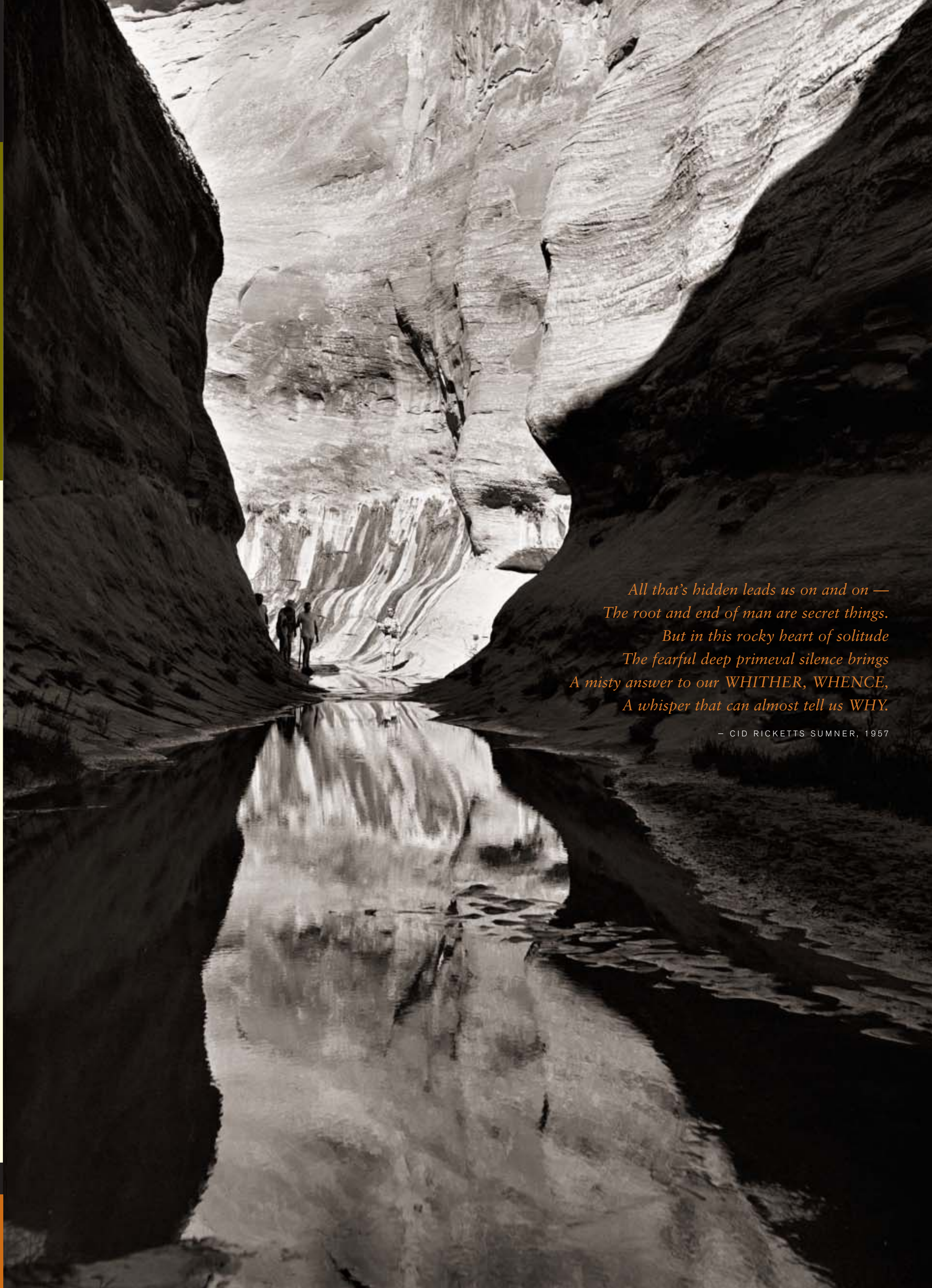
Visitor numbers at Powell have been declining steadily since 1993, except for 1996. The people who now recreate on Powell Reservoir will have no problem finding other places to go. There is an abundance of flat water at Lake Mead and elsewhere.

SUPPORT THE CITIZENS ENVIRONMENTAL ASSESSMENT

PHILIP HYDE

The federal government now spends millions of dollars each year attempting to mitigate damage to Grand Canyon downstream of Glen Canyon Dam. A full-scale assessment of the proposal to drain Powell Reservoir and restore Glen Canyon would be a wiser public investment. While building public pressure for a federally sponsored study, Glen Canyon Institute has also launched its own Citizens Environmental Assessment — a process that mimics the federal government's first-level environmental review of its proposed projects. As a member of Glen Canyon Institute, you directly support the rigorous work required to expedite restoration. Look for the Membership Card included with this briefing or visit our website at www.glencanyon.org.

MOQUI CANYON (before Powell Reservoir)



*All that's hidden leads us on and on —
The root and end of man are secret things.
But in this rocky heart of solitude
The fearful deep primeval silence brings
A misty answer to our WHITHER, WHENCE,
A whisper that can almost tell us WHY.*

— CID RICKETTS SUMNER, 1957

We don't have to knock down Glen Canyon Dam.
But over a hundred dams already have been.

Restoring Glen Canyon does not require demolishing a dam, simply opening a way around it. But dismantling dams that obstruct and divert America's rivers is hardly unprecedented.

Well over a hundred dams have been removed so far from rivers large and small across America — all part of the growing movement not only to protect the natural world in the future but to remedy the damage done in the past.

The results have been remarkable. In short order, rivers freed from dams have sprung back to fuller life. Fisheries once decimated have rebounded. Species endangered by habitat loss and invasion by non-native aggressors are on the upswing. Given a chance, nature can often repair our wrongs.

Glen Canyon was lost to shortsighted arrogance. It will recover because our vision has expanded. We no longer ignore the subtle interactions within ecosystems. We act on our appreciation of the interconnected.

There are other lost landscapes that need and deserve restoration. From the Snake River to Hetch Hetchy (the second Yosemite), overengineered relics continue to suppress nature's reassuring resilience. The Colorado River, the most severely cannibalized river in the West, deserves to flow freely through Glen Canyon.

The benefits will be felt for hundreds of miles downstream, for century upon century to come. Can you think of a better mark to leave in your lifetime?

Join us in this exciting project by contacting the Glen Canyon Institute today.



THE FIRST VIEW INTO HETCH HETCHY PHOTO FROM THE BOOK JOHN MUIR AND THE SIERRA CLUB, THE BATTLE FOR YOSEMITE.

The campaign to recover Glen Canyon is part of a national movement to restore what the 20th Century lost — including the magnificent Hetch Hetchy valley in California's Sierra, dammed in 1923.



P.O. Box 1925, Flagstaff, AZ 86002
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HIDDEN PASSAGE PHOTOGRAPH © TAD NICHOLS FROM HIS BOOK GLEN CANYON, IMAGES OF A LOST WORLD, MUSEUM OF NEW MEXICO PRESS, SANTA FE.

GLEN CANYON INSTITUTE WAS FOUNDED IN 1996 WITH THE BELIEF THAT GLEN CANYON DAM, LIKE ALL DAMS, IS A TEMPORARY STRUCTURE AND THAT ITS NEGATIVE EFFECTS CAN AND SHOULD BE REVERSED. OUR MISSION? TO RESTORE THE FREE-FLOWING COLORADO RIVER THROUGH GLEN CANYON AND THE GRAND CANYON. DECOMMISSIONING THE DAM AND DRAINING POWELL RESERVOIR ARE RESPONSIBLE WAYS TO SAVE THE COLORADO AND THE CANYONS AT ITS HEART. WE WELCOME YOU TO JOIN THIS HISTORIC RESTORATION PROJECT. PLEASE WRITE GLEN CANYON INSTITUTE, P.O. BOX 1925, FLAGSTAFF, ARIZONA 86002 OR VISIT WWW.GLENCANYON.ORG.

THE GREATEST RESTORATION PROJECT ON EARTH WILL REMEDY AMERICA'S MOST REGRETTED ENVIRONMENTAL MISTAKE...BY DRAINING POWELL RESERVOIR AND UNCOVERING GLEN CANYON.

Restoring
Glen Canyon



COVER PHOTO: CATHEDRAL IN THE DESERT BY PHILIP HYDE

Public Media Center

Decommission Glen Canyon Dam. And let the Colorado River restore the grandest canyon America ever lost.

Ancient ruins of the Anasazi. Sandstone sculpture shaped by wind and water. Vaulted chambers inspiring silent awe. What Wallace Stegner described as “the most serenely beautiful of all the canyons on the Colorado River.”

All this we lost when the waters of Powell Reservoir closed over Glen Canyon in the 1970s.

The Southwest has changed drastically since then. A wave of newcomers can never know the space and solitude of Glen Canyon once known to all too few.

Instead, unknowing millions have motored in boats hundreds of feet over a spectacular canyon submerged in dark and cold. Others have peered into the Grand Canyon, never imagining the harm done to it by Glen Canyon Dam upstream.

Now a new generation has realized that Glen Canyon is the grandest canyon America ever lost.

But there is still time to rescue it, as part of the growing nationwide movement to restore what shortsighted construction has ruined.

Better still, the Colorado River itself will do most of the work. Given the chance to flow freely again, excess sediment will be swept away and the main channel and side canyons will reemerge in glory.

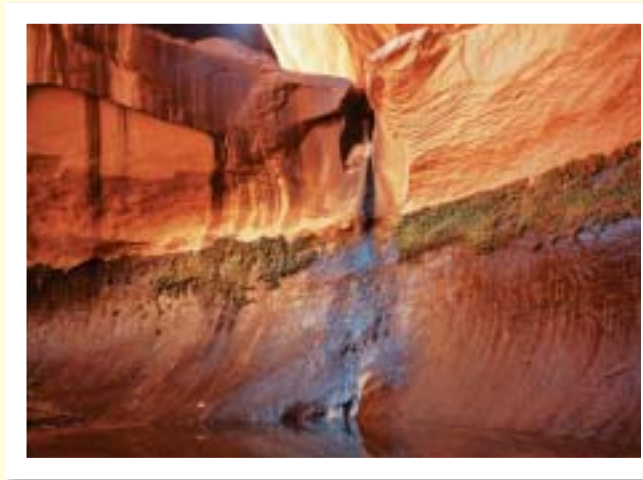
From towering Sentinel Rock, named by the first U.S. expedition to descend the Colorado, to Music Temple, Hidden Passage and Cathedral in the Desert, unequalled natural theaters of the spirit, Glen Canyon will shake off the damage done in the name of an outdated idea of progress.

The flowing Colorado will not stop there. It will also restore the integrity of the Grand Canyon itself, now compromised by Glen Canyon Dam above it. Unimpeded by the dam, the Colorado may well flow all the way to the Colorado River Delta in the Gulf of California, providing the fresh water needed to nourish this vital estuary.

So much of the natural world has been lost beyond recall. It is not often we have the chance to correct a heedless mistake, rare that we can seize a second chance to honor the beauty and the intricate workings of the natural world.

This is the offer Glen Canyon is making us.

The only question is: Will we accept?



CATHEDRAL IN THE DESERT
Drowned in 1967



LOWER ESCALANTE CANYON
Drowned in 1963



CROSSING OF THE FATHERS
Drowned in 1963



ABOVE KLONDIKE BAR
Drowned in 1963



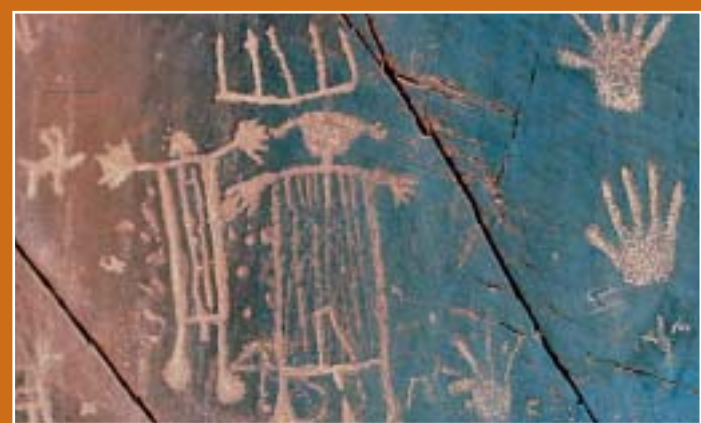
MOQUI CANYON
Drowned in 1964



HIDDEN PASSAGE
Drowned in 1963

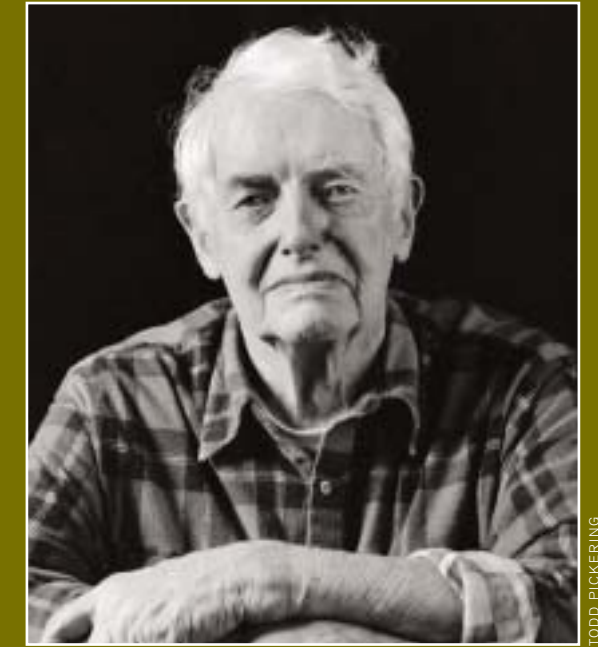


MYSTERY CANYON
Drowned in 1964



TWILIGHT CANYON

Built before full environmental and archeological studies were required, Glen Canyon Dam drowned more than a river.



We know that we can grow mindlessly enough to outstrip any resource, including beauty and judgment, which are not worth losing.

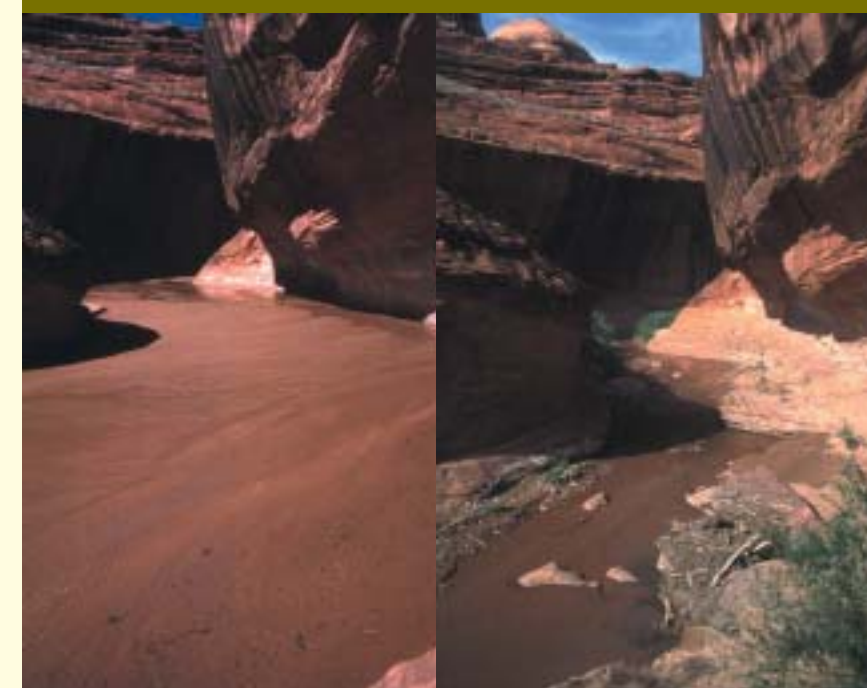
We also know Glen Canyon can be restored. There's no doubt about that. It can restore itself much more easily than we can restore ourselves in age. I'll race you to see what lost treasure Glen Canyon restores first!

Lest I be thought selfish, of course the main reason for hurrying the recovery is that the Grand Canyon needs it. The Grand Canyon cannot handle clear cold water as well as you can, nor can the species that were doing very well there until they built Glen Canyon dam as a silt trap and bank account for overengineering the Colorado River.

All we ask is that you help a troubled river find its way home. We will do it as soon as we stop denying that we have the will. Drain it!

—DAVID BROWER

was Executive Director of the Sierra Club when Glen Canyon Dam was built. He went on to found Friends of the Earth, League of Conservation Voters and Earth Island Institute. His personal contribution has made this briefing possible.



HOW CANYONS RECOVER:

In the 1980s, high water silted up this side canyon on the lower Escalante (left). When the reservoir dropped due to a series of dry years, summer flash floods flushed out the mudflat (right). Light-colored “bathtub rings” fade with time.



BASED ON MAP BY KITTY NICHOLSON