From: "Margaret Matter" <MATTER@wapa.gov>
Certify: N
Subject: Potential problems w/ May-June spike flow in GC
Date: Tuesday, January 20, 1998 at 7:43:57 pm MST
Attached: None

Dr. Garrett,

I understand that at the TWG meeting tomorrow, 1/20/98, that a spike flow on the Colorado River through Grand Canyon is proposed for the May/June timeframe and an accompanying research and monitoring budget are on the agenda for discussion.

I have two concerns in regard to that proposal.

1. The May/June timeframe is nowhere near optimal for native endangered fish, such as the humpback chub. You may recall that the March/April timeframe for the 1996 spike release was selected because it minimized impacts to native fish. In May and June, a primary concern is that some of the young of year native endangered fish enter the mainstem.

Studies have shown that there is reproductive success in the humpback chub population, but they also show that mortality in the first year of life of the

young of year endangered fish, or those fish just hatched that year, is 90-100%. High flows and fluctuating flows are among suspected factors contributing to the high mortality of young of year native endangered fish.

Until all of the necessary research and monitoring has been conducted on cause and effect of each potential contributing factor, perturbations of the system involving those factors should be limited.

It is recognized that there are many issues to evaluate and balance for spike releases; such as several endangered species with conflicting needs. Two others are (1) inflow forecast for Lake Powell, and (2) influence of El Nino in March and April, and subsequent effect on the forecast.

Naturally, later in the spring or early summer is a more optimal time for forecasting inflows with a much smaller error than is typical for forecasts made in the late winter/early spring (e.g., Jan., Feb, and March). In terms of water supply

What the exact effect of El Nino may be is still speculation; it may bring large storms to the Colorado River Basin in March and April, or its effect may be nothing out of the ordinary.

Regardless of the effect of El Nino or the eventual snowmelt and inflow conditions, the timing of the spike flow is critical. If there is time to plan, which there is for a May/June event, then the planning should focus on the resources that will be adversely impacted and those that will benefit. Such is the case even among endangered species. Endangered species, such as the humpback chub, because of their limited populations, high mortality rate, and subsequent low or no contributions of young fish to the population, and are likely to be adversely impacted by a late spike flow, and as a result, should be a top priority.

2. The allotment of monitoring and research funds for the spike flow for endangered fish, should be proportional to or reflect the priority and level of importance of the resource for that particular event. Some resources are more expensive to monitor than others, so even a limited study program for one resource may be more expensive than a comprehensive study of another resource. Priorities in funding should follow the resource priorities, or in this case for example, since endangered fish are resources that may be adversely during the event, funding should be available to answer the questions regarding the various effects of high flows on native and endangered fish. High flows and fluctuating flows occurred during the spring in the pre-dam environment. What effects will the timing, magnitude, duration, etc. of the spike release in the late spring have on the endangered fish in the post-dam, naturalized environment ?

Sediment is a resource common to almost every other resource in the riverine ecosystem below Glen Canyon Dam, so it is an important resource, and in a sense, endangered. However, unlike endangered species who have to have a law to promote protection, the sediment supply in the system does receive new

contributions along the river corridor, over the year; every year. Mortality rates of 90-100% among endangered fish means that few or no fish are being added to the population in a given year.

Thank you and good luck.

Sincerely,

Margaret A. Matter