

APPENDIX A: THE DALLES

The Dalles Dam

1. Special Project Operations

Low water supply in the Columbia River Basin forecast for 2001, coupled with unusual power system conditions (described in Overview section 1.2, page OV-2), may result in modifications to the special project operations and studies described below. RCC will coordinate needed changes with the projects and authorize operations in teletype regulations.

1.1. Spill. Spill will be provided continuously from April 10 through August 31 for spring and summer migrants as required in the NMFS BiOp. Actual spill levels are being developed as part of ESA coordination on hydrosystem operations to protect multiple listed species. They will be provided in a manner consistent with TDG management to avoid excessive gas supersaturation conditions.

2. Studies.

At the time of FPP publication, regional coordination for spill and survival studies at The Dalles Dam was ongoing. It is not anticipated, however, that special spillway operations for testing purposes will be requested in 2001. The ice and trash sluiceway forebay gates 1-1, 1-2, and 1-3 also will be open continuously throughout the study period. Additionally, intake occlusions will be evaluated for their ability to decrease turbine entrainment. The occlusion structures will be placed in front of both fish units and main units 1-5. All structures will be kept in place or removed above the water according to a random block design. Each treatment will last three days, a block will last six days. One full day will likely be required to move the occlusions in or out to set up for the next treatment. The turbine unit at an intake occlusion will need to be shut down each time the structure is moved.

2.1. Project Survival Evaluation. Survival studies will be conducted at The Dalles Dam spillway and powerhouse. These studies are currently under discussion within the region, and have not yet been developed.

2.2. FPE and Blocked Trashrack Evaluations. FPE will be evaluated at The Dalles Dam using hydroacoustic and radio telemetry techniques. Unit outages for deployment of equipment will be required beginning in April and will likely include outages of most units to accommodate diver mounted equipment.

In-season outages may also be required for equipment repair. Hydroacoustic and Telemetry equipment will also be deployed at the spillway. Equipment will be removed after the study and will require similar outages as installation.

The Blocked Trashrack portion of the study will take advantage of the equipment for other studies, but may need additional outage of Units 1-5 for additional deployment of equipment. Main units 1-5 will be operated on a first on/last off operational priority during the test period.

2.3. Behavioral Studies. Tracking split-beam sonar will be used to collect data within 15 m of the sluiceway. An acoustic Doppler current profiler will also be deployed near the sluiceway to monitor real time hydraulics. These studies are under development.

2.4. Adult Salmon and Steelhead Passage Evaluations. Radio telemetry techniques will be used to evaluate adult salmon and steelhead passage through the project. A second year of evaluating the effect of closing all powerhouse collection channel floating orifices will be conducted in 2001. Entrance use and passage times will be monitored and compared to previous years' data to ensure that closing the floating orifice gates does not adversely affect adult migrant passage.

2.5. Equipment Installation and Maintenance. Installation of hydroacoustic transducers, radio telemetry equipment, and the release mechanisms for the survival studies will begin in March at The Dalles Dam. Installation of spillway transducers will occur between mid-March and mid-April, spill gates will need to be closed for the installation. The gate in one bay at a time will be closed. Installation of hydroacoustic equipment at the powerhouse and sluiceway will require turbine unit outages to allow for diver access. It will take approximately two weeks in late March to install and align all of the transducers at the powerhouse. Three turbine units will be out of service for approximately 8 hours each day beginning at 0800 hrs. The fish units will be taken out of service on March 16 and 17 between 2000 and 0500 hours. Typically, we can expect approximately 12 transducer failures over the three-month period. Each failure will require a turbine unit outage of approximately four hours. If a dive is required to repair the problem, the two adjacent units will be out of service as well. Equipment will be removed between August 1 and 7 with procedures and outages similar to the installation outages discussed above, if it can be accomplished without manipulating the spill schedule. Equipment removal will be delayed until after the spill season if necessary to prevent interruptions to the other ongoing evaluations.

Additional turbine outages will be needed to install the tracking split-beam system. Units 1-3 likely will need to be turned off for half a day to install this system.

The number of spillway and turbine outages will be minimized as much as possible. We will attempt to install all equipment at a given location in one outage. However, this may not always be possible.

2.6. All dates shown are approximate and could be advanced or delayed by a week or so depending on various factors such as river flows, contractor schedules, equipment failures, etc. Some evaluations may not proceed. Therefore, a final description of studies and outages being conducted will be coordinated with the region through AFEP (FFDRWG and SRWG), prior to April 1. All special operation requests or schedule changes will be coordinated with the fisheries agencies and tribes through the AFEP and with RCC and BPA.