State Water Projects

The State Water Projects Bureau (SWPB) administers the operation, management, and rehabilitation of the state-owned dams, canals, and hydropower projects that are under the purview of the DNRC's Water Resources Division. A complete list of the projects, along with additional information can be viewed on the DNRC, Water Resources Division website at http://www.dnrc.mt.gov/wrd/water_proj/default.asp. DNRC also provides professional engineering and rehabilitation assistance on ten additional water projects that are owned by the Department of Fish, Wildlife and Parks (DFWP). The SWPB markets water from the state-owned facilities primarily for irrigation and administers approximately 1,965 water-marketing contracts though the local water user association. The total combined volume of water marketed by the SWPB, per year is 293,609 acre-feet. The revenue from the water purchase contracts and leases of lands associated with the projects, and net revenue from hydropower generation supplements funds for state water project rehabilitation costs (see Tables 35 and 36). Debt repayment funds are derived from repayment contracts with water users. The SWPB ensures that the projects are operated and maintained in a safe, efficient manner, are kept to current dam safety standards, and repayment contracts are properly administered.

Project Rehabilitation

The Project Rehabilitation Program identifies and corrects safety and operational deficiencies on state-owned projects. North Fork of the Smith River Dam located near White Sulphur Springs was rehabilitated during FY 2006 with the addition of a new spillway, drain system and outlet terminal structure. Design work was completed for an abutment stabilization project at Martinsdale Dam. Contract preparation was also completed and consultants selected for feasibility studies on Frenchman and Painted Rocks Dams. A new gate hoist chain was purchased for installation at Painted Rocks, and the gate hoist control system was upgraded. A feasibility study is currently underway for the rehabilitation of Ruby Dam. Staff also prepared Renewable Resource Grant and Loan Applications for 2 projects. The first for the rehabilitation of Ackley Lake Dam in Judith Basin County and the second for a study on the installation of automated monitoring instrumentation at Middle Creek Dam, located in Gallatin County.

Table 35
Leases Associated with DNRC-Owned Water Projects

Lease Type	Number of Leases	Annual Revenues
Cabin site	26	$13,000
Grazing	5	4958
TOTALS	31	$17,958

Seepage Monitoring

Seepage monitoring is required as a condition of the operating permits for all dams regulated by the Montana Dam Safety Program. Twenty-two DNRC dams are regulated under the MT Dam Safety Program, (see web http://www.dnrc.mt.gov/wrd/water_proj/default.asp) and have monitoring wells installed.

The SWPB is currently upgrading the seepage monitoring data collection systems on DNRC's projects as funding allows. To date, instrumentation systems were upgraded on Tongue and East Fork Dams during FY2006 with the installation of new data loggers and other associated equipment. At locations where these systems are not in-place, measurements are taken by hand. The data is collected monthly, reviewed and compared to historical trends.

Project Management

The Project Management Program administers the operation of the state-owned dams and canals and oversees the repayment contracts with the water user associations. Additionally, the program protects water rights for the projects and oversees the disposal of projects no longer appropriate for state ownership.

Property Management

Many years ago, the State of Montana constructed numerous water conservation projects because there was a need for government to create employment opportunities and stabilize the agricultural economy. Governmental involvement in some of these projects no longer provides public benefits, and these projects are being transferred to the local water user associations, water districts, or private ownership. This program also administers the property assets of active water projects.

Canal Operations

The Canal Operations Program is responsible for identifying and correcting operational deficiencies of 250 miles of state-owned canals. Major activities accomplished in FY 2006 include the following:

- The Deadman's Supply Canal was renovated after a flood event caused significant damage. Approximately two miles of the canal prism were reconstructed and more than one mile of the canal prism was lined with an EPDM membrane.
- Initial studies and preliminary construction work have been undertaken in order to restore the capacity of the Smith Creek Canal, a supply canal for Nilan Reservoir.
- Staff prepared Renewable Resource Grant and Loan Applications for two canal projects: 1) The East Fork Siphon Replacement and Canal Lining Project, which proposes measures that would ensure the long term viability of the Flint Creek Water Project near Philipsburg; 2) The Smith Creek Canal Lining Project, which advocates improvements that would restore the capacity of a critical supply artery for the Nilan Water Project near Augusta.

Water Measurement and Water Rights Activities

The State Water Projects Bureau is responsible for all water measurement and water right activities associated with state-owned water projects, including the tabulation of annual discharge summaries for SWPB gaging stations for the water year (October 1 through September 30).

In FY 2006, the bureau collected and recorded bimonthly reservoir storage data for 18 state-owned reservoir projects; operated and maintained 30 permanent and 2 temporary stream- and canal-gaging stations associated with state projects; and upgraded five permanent gaging stations with electronic data recording equipment. Additionally, the bureau measured stream

flows and maintained rating tables for staff gages on the four major tributaries immediately above Painted Rocks Reservoir. The bureau also continued with the on-going process of consolidation and correction of water rights associated with state-owned water projects.

Hydropower

The Hydropower Program administers the development and operation of hydropower facilities on state-owned water projects. To date, one hydropower facility, the Broadwater Power Project near Toston, has been built. With a maximum capacity of 10 megawatts, the project began generating power in June 1989. DNRC owns and operates the facility and contracts with NorthWestern Energy to sell the energy. Earned revenues are used to help finance the rehabilitation of other SWPB water projects. In an average year (assuming mean runoff), the facility is capable of generating roughly 56 million kilowatt-hours of electricity and earns roughly $3.5 million in revenue from energy and capacity sales. After debt payments and operating expenses, approximately $1.3 million is available to rehabilitate state-owned dams.

Most of the water storage projects managed by the SWPB were completed in the late 1930s and early 1940s and have significant needs, either via spillway capacity, or simply structural deterioration over time. The earned revenue from Broadwater is critical for maintaining and repairing these structures so they meet current safety standards and codes. Statistics concerning the Broadwater Power Project during FY 2006 are shown in Table 36.

Table 36
Broadwater-Missouri Power Project in FY 2006

Operating availability	93.6%
Gross energy generation kilowatt-hours	46,715,313
Gross revenue from sales	$3,282,920
Investment income	$134,895
Operating costs	($481,571)
Bond payments	($1,860,335
NET REVENUE	$1,075,909

The operation and maintenance staff completed a major lubrication tank-recoating project in September 2005, which accounted for most of the year's offline time. A major rehabilitation project underway for FY06 is the replacement of the pedestrian / maintenance bridge over the dam. The project is expected to be completed by the fall of 2006.

Toston Dam

North Fork Smith River Dam (after rehabilitation)