



U.S. ARMY CORPS OF ENGINEERS

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## Vermont

# Ball Mountain Lake

The dam at Ball Mountain Lake in Jamaica is located on the West River at the eastern edge of the Green Mountain National Forest. From Brattleboro, visitors can reach the dam by heading north on Route 30 to Jamaica.

The reservoir provides flood protection to the downstream communities in the West River Valley, including Jamaica, Townshend (particularly the West Townshend and Harmonyville sections), and Dummerston. In conjunction with other reservoirs in the Connecticut River Basin, Ball Mountain Lake also reduces flood stages on the Connecticut River.

Construction of the dam began in May 1957 and was completed in October 1961 at a cost of \$11 million. The project features an earthfill dam with stone slope protection 915 feet long and 265 feet high; a gated, 864-foot-long circular concrete conduit with a diameter of 13 feet six inches; and a chute spillway cut in rock with a 235-foot-long concrete weir. The weir's crest elevation is 35 feet lower than the top of the dam. About 1.5 miles of roads, 0.5 mile of utilities, and a 10-grave cemetery were relocated. Construction of the recreational facilities at the reservoir began in June 1975 and were completed in June 1977.

Ball Mountain Lake has a permanent pool of 20 acres with a stage of 25 feet. From mid-May to mid-October, this pool is enlarged to 75 acres, a stage of 65 feet, to increase the seasonal recreational opportunities and improve reservoir aesthetics. The flood storage area of the project totals 810 acres and extends 6.5 miles upstream through Londonderry. The project and associated lands cover 1,227 acres. Ball Mountain Lake can store up to 17.8 billion gallons of water for flood control purposes. This is equivalent to 5.9 inches of water covering its drainage area of 172 square miles.

Surrounding the project is the unspoiled and highly scenic West River Valley. The land and water in both the reservoir area and the adjacent Winhall Brook Campground are well suited for a variety of leisurely pursuits. The reservoir area at Ball Mountain Lake offers five picnic tables, including two on the overlook, and three fireplaces. Sanitary facilities are provided. Fishermen will enjoy stocked rainbow, brown, and brook trout, and self-sustaining small-mouth bass. There is in season hunting, for native deer, bear, rabbit, partridge, woodcock, squirrel, raccoon, ruffed grouse, and duck.

Located within the project lands of Ball Mountain Lake is the Winhall Brook Camping Area in Londonderry. Situated about nine miles north of Ball Mountain Lake on Route 100, the Winhall Brook Camping Area offers a variety of recreational pursuits. There are 109 campsites, many of them streamside and each with its own picnic table and fireplace ring. Hikers and snowmobilers enjoy the .5-mile-long marked trail around the camping area and the two miles of old abandoned railroad bed within the campground. There is an open field for softball and other sporting activities, as well as a volleyball playing area situated about 1/4 mile from the campground's entrance. The camp-

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ground features hot showers, sanitary facilities, a trailer dump station, and drinking water. Weekend evening campfire programs and guided walks are offered. The West River presents an excellent challenge to fly fishermen and has outstanding caddisfly hatches. The West River also features state stocked brown trout, native brook, and stocked Atlantic salmon, which is part of the Atlantic Salmon Restoration Program. The Winhall River offers fishing for state-stocked brown, brook, and rainbow trout. In-season hunting is available for the same species listed above in the reservoir area.

The section of the West River between Ball Mountain Lake and Townshend Lake has developed into one of the major centers of whitewater canoeing and kayaking in the East. The Corps makes controlled water releases from both dams in the spring, generally on the last weekend in late April. There are also controlled releases from both dams on a weekend in mid September.

The 1986 Water Resources Development Act passed by Congress authorized the Corps to design, construct, and operate facilities that will enable upstream migrant adult Atlantic salmon to bypass the dams at Ball Mountain and Townshend Lakes. The law also authorized the Corps to provide the necessary facilities for the downstream passage of juvenile salmon. A \$925,000 fish passage project on the West River was completed by the Corps in January 1993 encompassing both Ball Mountain and Townshend lake dams. The facility at Townshend Lake consists of the construction of a fish trap to collect upstream migrant salmon which would then be transported via tank truck above the dam to release points at both Ball Mountain and Townshend lakes. Modifications were made at both Ball Mountain and Townshend lakes to allow for downstream migration of juvenile salmon as well.

The normal pool elevation of feet at Ball Mountain Lake will be reduced to 25 feet each year to attract the juvenile salmon (April thru mid-June), and one of the three manual flood gate controls has been replaced with an automated gate operator which will automatically regulate outflows to assure that the 25-foot pool elevation will be maintained during normal flows.

At Townshend Dam, a splash weir was constructed within the intake weir structure upstream of the center flood control gate to form a splash pool to protect juvenile salmon from injury due to the 20-foot drop to the inlet weir floor. A onefoot V-notch was cut into the inlet weir to allow the juvenile salmon to enter the outlet during low flow periods. It is estimated that 75,000 to 80,000 juvenile salmon will pass downstream annually on their migration to the ocean.