A hike up Lundy Canyon reveals one of the Sierra’s hidden gems—impressive waterfalls and massive beaver ponds lie below steep canyon walls. It is hard to believe that just below Lundy Lake Reservoir Mill Creek slows to a trickle in desperate need of water.

A fresh analysis of the past 20 years of hydrology data has confirmed the striking disparity between what Mill Creek is supposed to receive according to long-established water rights and the amount actually flowing between its banks.

The third largest creek feeding Mono Lake, Mill Creek was never diverted south to Los Angeles. Instead, for over a century water has been diverted for hydropower, irrigation, and, more recently, aquaculture in the North Mono Basin. Over time those diversions, combined with Mono Lake’s decline, profoundly degraded Mill Creek’s cottonwood-willow streamside forest, wet meadows, and bottomland deltaic habitats with severe consequences for the associated trout fishery, migratory and nesting birds, and other wildlife. Today, Mill Creek and its streamside lands represent the most remarkable opportunity for restoration in the Mono Basin.

**Mill Creek losing over 75% of water to diversions**

*Return ditch repair will enable water rights compliance*

*by Morgan Lindsay*

Mill Creek begins high in Lundy Canyon where fresh Sierra snowmelt tumbles down a series of steep waterfalls each spring. Wildflowers abound with the arrival of warm summer sun and thick stands of quaking aspens provide welcome shade to hikers and songbirds alike. This life-giving water collects in Lundy Lake Reservoir, a natural lake enlarged by a dam. The majority of the water then leaves the reservoir through a penstock to the Lundy hydroelectric plant where it produces renewable energy.

After generating electricity, only a limited amount of water should be diverted north to satisfy water rights holders’ needs while the remainder is supposed to return south to Mill Creek. Unfortunately, the return ditch, originally constructed in 1911 to transport water back to Mill Creek, has degraded substantially over the past century and has not carried any water since 2005. Even when in use the return ditch had an insufficient capacity, lost half the water volume to groundwater, was subject to icing problems, and was used only a few weeks out of every year. Without a feasible way to return the water diverted for hydropower generation, for decades nearly all of Mill Creek’s water has by default gone into the Wilson diversion system, a collection of irrigation ditches, watercourses, and related uses developed over the last century.

### Mill missing most of its water

Over the last 20 years Mill Creek has received less than half of the water it should lawfully receive according to the water rights adjudicated in 1914.

As shown in the pie charts below, on average, less than one quarter of the total Mill Creek flow above Lundy Lake Reservoir has remained in the stream. The rest, 79%, is diverted into the Wilson system.

In contrast, under a generous charting of the water rights for the same time period, diversion to the Wilson system should have been 44%, meaning Mill Creek should have received 56% of the flow, more than double the 21% that actually flowed downstream.

**How the water flows**

*The average flows to Mill Creek and the Wilson diversion system over the past 20 years stand in sharp excess of what is allowed under the established water rights.*

In recent years the disparity between water allocated to Mill Creek and water delivered to Mill Creek has become even more extreme. For example in 2008, a moderately dry year, 89% of Mill Creek’s flow was diverted from Lundy Reservoir and delivered to the Wilson diversion system, leaving only 11% in Mill Creek—just a fraction of the 56% that should have been in Mill Creek if water rights were followed.

*Continued on page 18*
Fixing excessive diversions

The solution to this dramatic, damaging problem is simple: update and repair the return ditch. The win-win results will be unimpaired hydropower generation, delivery of water rights to the Wilson diversion system and, critically, the return of Mill Creek’s missing water. In October 2010, Southern California Edison, the Lundy Hydroelectric Project operator, filed an application with the Federal Energy Regulatory Commission to construct a return conveyance system as prescribed by the 2005 Settlement Agreement. The improved pipeline will follow the path of the old return ditch and efficiently return the water Mill Creek is entitled to after it generates electricity at the hydropower plant.

The return conveyance system will also benefit the Black Point marsh, a valuable spring-fed wetland, by reducing the damaging deposition of thick debris caused by excess water in the Wilson system (see Spring 2010 Newsletter). And finally, this straightforward infrastructure improvement will at last allow the water allocation between Mill and Wilson to conform to the decreed water rights.

Morgan Lindsay is a Committee Project Specialist. Her favorite task this winter was skiing out to observe and record Mono Lake’s exact height above sea level. At press time, 6382.07 feet and rising!