

## Improvement of Environment along Railway Lines

### Restricting use of herbicides

Safe train operations require regular removal of weeds along railway lines. While we generally remove them manually, we also use a certain amount of herbicide. We keep the usage of herbicides to a minimum in both volume and range of use. When selecting herbicides for use, we select those from the safest of the three levels of toxicity for those toxic to humans and animals, and from Category A, the safest of the five levels, for those toxic to fish. We continue to observe the rules in place in order to keep our impact on the surrounding environment to a minimum, as with our initiative to postpone the spraying of herbicides when conditions on the scheduled day are not satisfactory for spraying.

### Harmony with the landscape

Constructing a large-scale railway facility or remodeling one can affect the immediate area and surrounding environment, and their design is increasingly important. From the stage of planning and designing, we consider harmony with the landscape along with function and economy, endeavoring to build facilities friendly to the regional environment. In the fiscal year ended March 2009, the Tenmagawa Bridge (between Kamikitamachi and Ottomo on the Tohoku Main Line) received the Civil Engineering Design Prize of the Japan Society of Civil Engineers - a recognition of our efforts by a distinguished outside party.



Using continuous concrete arches, the Tenmagawa Bridge, between Kamikitamachi and Ottomo on the Tohoku Main Line, sits in harmony with the mountains and pastoral landscape of Aomori Prefecture and received the 2008 Civil Engineering Design Prize of the Japan Society of Civil Engineers.

### Use of groundwater in tunnels to purify rivers

Groundwater in underground tunnels is typically pumped out and drained away. JR East, in coordination with local municipalities, promotes draining clean spring groundwater in tunnels into surrounding rivers to purify water and improve the environment. In Tokyo, we started draining clean groundwater to the Nogawa River (via Sugatami Pond) in the fiscal year ending March 2002, to the Tachiai River in the fiscal year ending March 2003, and to Shinobazu Pond in the fiscal year ending March 2004; and, in Kanagawa Prefecture, to the Yahagi River in the fiscal year ending March 2008.



Routing tunnel groundwater to the Tachiai River

### Forest development along railway lines

Since 1992, we have implemented tree plantings along railway lines to create railway forests. By March 2010, we had planted some 290 thousand trees with the involvement of about 42 thousand people. We are now working together with people in local communities on planting trees in other places as well as along railway lines.