

# more than you think



**Before:** Undersized culverts and deteriorating road crossings alter stream flow and allow tons of sediment to enter the watershed. **Inset:** After, this new culvert was installed at a site on the Rapid River in Kalkaska County allowing more natural flow and preventing erosion.



**Mountains of sand** — 90 dump truck loads — dredged from the north branch of the Boardman River “de-waters” before being moved. Since 1994, the Guernsey Lake sand trap alone has captured an estimated 6,000 cubic yards of sand from the river.

## WATERSHED ACCOMPLISHMENTS

- In 1991, a Grand Traverse Conservation District survey identified more than 600 individual erosion sites along the Boardman River. By the end of 2004 approximately 200 sites will have been restored.

- Five sand traps installed in the Boardman remove more than 2,000 tons of sand per year from this system.

- In 2003, The Watershed Center received \$99,150 grant to restore 3,000 feet of Kid’s Creek streambank in the area between Kohl’s and Great Wolf Lodge. This will reduce sediment inputs from 150 tons/year to 5 tons/year (the estimated natural level).

- Tip of the Mitt Watershed Council has worked with residents and installed biotechnical erosion control measures at

sites on Torch Lake, Six Mile Lake, Lake Bellaire and Elk Lake.

- The Kalkaska Conservation District replaced undersized culverts at the Wood Road crossing on the Rapid River which was contributing nearly 400 tons of sediment to the stream each year.

- Traverse City is undertaking a \$20,000 pilot study of stormwater management techniques to evaluate the effectiveness of increased street-sweeping and the use of catch basin filter inserts to reduce contaminants in stormwater before it reaches the bay.

- Vortex units were installed at both Northwestern Michigan College’s new Great Lakes Campus and the downtown Traverse City parking deck to handle runoff at these sites. The vortex systems use centrifugal force to remove sediments, oil, and contaminants from stormwater before it discharges to the bay.

- The Grand Traverse Band of Ottawa and Chippewa Indians adopted a Soil Erosion and Stormwater Control Ordinance in 1997 for all tribal lands.

## WAYS YOU CAN HELP

- Use lawn fertilizers sparingly and follow instructions.
- Maintain your septic system properly.
- Don’t dump yard waste into your river, lake or stream.
- If you live on the water, plant a natural, vegetative buffer strip along the shore to prevent erosion and runoff.
- Minimize the amount of paved surfaces on your property. Use gravel or stone in place of concrete or asphalt.
- Plant a rain garden to capture runoff.