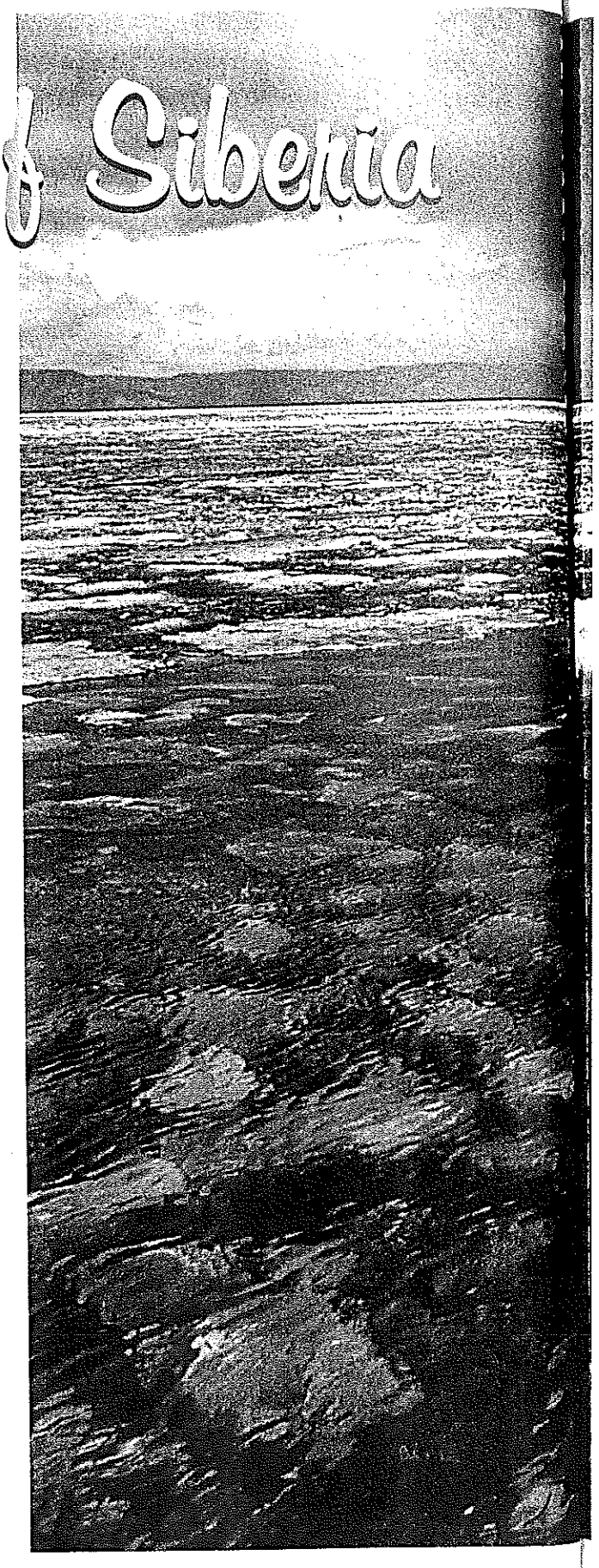
## Lesson 8

# The Pearl of Siberia



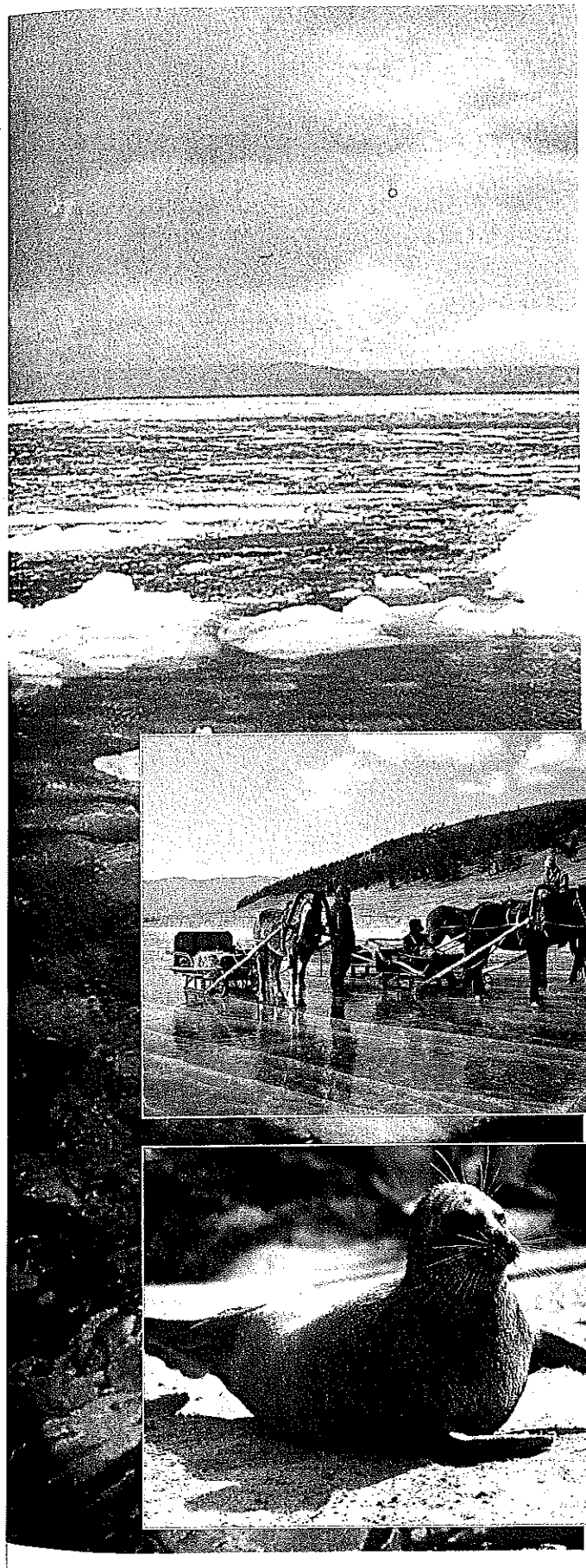
**As you read the story of Lake Baikal, keep in mind how human activities can affect the physical environment.**

All Russian children were once taught that Baikal is special. It is the oldest lake on Earth, as well as the deepest. It is the largest freshwater lake on Earth, holding 20 percent of the world's fresh water—more than all of North America's Great Lakes combined. In school children traced the lake's elegant shape and learned the nickname Russians have called it for generations—"the Pearl of Siberia."

Lake Baikal is a natural wonder located in southeastern Siberia, west of the Yablonovy Mountains in Asia. Many species of wildlife can be found only in this lake and the regions surrounding it. Sadly, in the 1960s, due to intensive industrial and resource development, the Soviet Union became largely responsible for the lake's massive pollution. A significant part of Lake Baikal and the surrounding region has suffered from ecosystem collapse as a result of overdevelopment.

All of the living and nonliving things around Lake Baikal form a closed **ecosystem.** This is because all of the lake's water comes from surrounding mountains, and its drainage area is only twice as large as the lake itself. This, along with overdevelopment, upset the delicate balance of the lake's **ecology,** or relationship between the living and nonliving things in the lake environment.

Baikal's decline began in 1896 with the arrival of the Trans-Siberian Railway. Primitive timbering and agricultural techniques followed, causing **erosion,** or the wearing away of soil and rocks by water and wind, on the shore of the lake. A more serious threat came in 1966 when the Baikalsk Pulp and Paper Combine began operation, exploiting the lake's water and the surrounding timberlands.



ıssian poet Yevgeny Yevtushenko called
ke Baikal the "blue heart of Russia."

The clearing of large timber areas devastated much of the surrounding **taiga,** the evergreen forest of Siberia. This also caused erosion and built up **silt,** or fine mud, deposits at Baikal's bottom. Toxic, or poisonous, chemicals filled the lake. Factory waste and untreated sewage, dumped into Baikal from a river flowing into the lake, were made worse by chemical pollutants from another factory downriver. The chemicals from these factories caused serious harm to the human population and the environment.

Once the "crown jewel" of Russia, Baikal has become an environmental battleground. Toxic fallout from air pollutants has damaged about 770 square miles of taiga. **Acid rain,** formed by precipitation and the fumes from burning sulfur and nitrogen oxides, poured onto Lake Baikal. Twenty-three square miles of the lake's bottom were ruined. Pollution has spread so far north that tourist hotels can no longer serve fresh water from the lake. Serious declines have occurred in the size and population of the omul, a species of whitefish that is Baikal's main commercial fish. Continued contamination of the lake and its surrounding area could make the damage to its environment irreversible.

Restoration of this natural treasure could cost the Russian Federation billions of rubles, or Russian dollars, and no one knows where the money will come from. Recently there have been discussions about an international environmental group investing in the lake's future. Factories that pollute Lake Baikal employ thousands of people. If these factories close, workers may have little chance of finding jobs elsewhere. Preventive measures, such as forbidding lumbering close to the lake's shore and monitoring sewage disposal, may give Lake Baikal a chance to heal itself. The life within the depths of the deepest and oldest lake on Earth could indeed have a new beginning.

The nerpa, the world's only freshwater seal, is found nowhere else on Earth except Lake Baikal.