



WHAT'S THE SCORE?

NRDC's Grading Methodology

WHAT'S ON TAP?

Grading Drinking Water in U.S. Cities

June 2003

In developing a grading system for drinking water quality and right-to-know reports, NRDC worked closely with the steering committee of the Campaign for Safe and Affordable Drinking Water, an alliance of more than 300 public health, environmental, medical, consumer, and other groups. Once NRDC had evaluated the water systems and assigned an initial round of grades, it sent draft reports on each city out for peer review. Based on comments from that review, NRDC fine-tuned our grading system.

WATER QUALITY AND COMPLIANCE GRADES

NRDC chose public water systems in 19 cities around the nation and assigned each system a water quality and compliance grade.¹ A water system that was in compliance with national health standards (that is, enforceable maximum contaminant levels [MCLs] and substantive Treatment Technique requirements [TTs]) under NRDC's grading system earned a grade of Fair. If, in addition to complying with these standards, the utility met additional criteria, it earned a higher grade.

Specifically:

- 1.** If the utility does not exceed any current, proposed, or final (but not yet enforceable) drinking water standards (that is, MCLs or TTs); does not exceed any action levels for lead and copper; and if all of the utility's detected contaminants whose health goals are 0 are found at less than 25 percent of the national standards, then that utility may earn an Excellent.
- 2.** If the utility does not exceed any current, proposed, or final but not yet enforceable drinking water standards (that is, MCL or TT); does not exceed any action levels for lead and copper; and all contaminants are substantially below, but above 25 percent of, the national standard, then that utility may earn a Good. For example, a city may be in compliance with all current and proposed standards but have levels of a cancer-causing contaminant like trihalomethanes (some of which have a health goal of 0 because any exposure poses a cancer risk) at less than half of the EPA standard. Such a water system would get a Good.

NRDC'S GRADING SYSTEM FOR WATER QUALITY AND COMPLIANCE

See page 24 for city-specific grades.

Excellent. Excellent drinking water.

- ▶ No violation of current national standards
- ▶ No exceedance of action levels
- ▶ No violations of proposed or final (but not yet enforceable) national standards
- ▶ All detected contaminants whose national health goals are 0 are found at less than 25 percent of the national health standard

Good. Generally high-quality drinking water.

- ▶ No violation of current national standards
- ▶ No exceedance of action levels
- ▶ No violations of proposed or final (but not yet enforceable) national standards
- ▶ All detected contaminants whose national health goals are 0 are found at substantially less than the national standard but more than 25 percent of that standard

Fair. Drinking water quality and compliance is satisfactory overall but has problems.

- ▶ No violations of current national standards
- ▶ One or more violation of a proposed national standard that is not yet final
- ▶ One exceedance of an action level

Poor. Drinking water quality and compliance with standards has serious problems and barely passes.

- ▶ Violations of a combination of more than one action level proposed standard
- ▶ One or more violations of new (but not yet legally enforceable) standard
- ▶ Other serious and repeated water quality and compliance problems (such as frequent well closures due to serious contamination)

Failing. Drinking water quality and compliance with standards is of high concern.

- ▶ A violation of a currently enforceable national standards

3. If the utility is in compliance with national standards, but violates a proposed standard, or violates an action level, then it earns a Fair. For example, a system that is technically in compliance with all current EPA standards but has a problem with lead that causes it to exceed the EPA action level would get a Fair. If a utility did not meet the core criteria, it earned a grade lower than Fair.

4. If a utility violates a final (but not yet enforceable) standard or has a combination of more than one violation of an action level or a proposed standard but does not violate a currently enforceable standard, it receives a Poor. In addition, if a system is found to violate a substantive requirement of a treatment technique that presents a potential risk but not an imminent health threat, it can get no better than a Poor. Thus, if a system violated the new but not yet enforceable arsenic standard, and also exceeded the EPA action level for lead, it would get a Poor.

5. If a utility violates a current national standard, then it receives a Failing grade. Thus, for example, a system that violates the EPA treatment standard for turbidity (cloudiness of the water that indicates possible pathogen contamination) and is forced

to tell its customers to boil their water would get a Failing grade. One important caveat to this structure: If a utility's contamination levels are low enough that they do not violate a national standard but high enough that they exceed a level that the EPA has deemed fully safe (through its health goal or Maximum Contaminant Level Goal), the utility can be downgraded, even though it is technically in compliance. Thus, NRDC's standards for judging drinking water quality may differ from those of the EPA, state officials, and water utilities. Utilities may complain that they should be graded with an Excellent simply for being in compliance. NRDC disagrees. NRDC believes that a water system in technical compliance with current enforceable drinking water standards and action levels deserves some credit, but to demonstrate more than mediocre performance and water quality, a system must go beyond the legal minimum. It must provide excellent water that does not pose health risks to its consumers, whether or not the system is technically in violation. Many EPA standards allow unnecessary health risks because they are old and have not been updated, or because in issuing the standards the EPA has weighed compliance costs too heavily, in NRDC's view, and has allowed the public to be placed at an unnecessary risk.

RIGHT-TO-KNOW REPORT GRADES

Public water utilities are required to produce annual right-to-know reports (also called consumer confidence reports or water quality reports) under the Safe Drinking Water Act Amendments of 1996. The purpose of the right-to-know reports is to inform Americans about the quality of their drinking water and the health risks to which they may be exposed by drinking tap water. The reports are also intended to provide information on the threats to source water and on known polluters of that source water, as well as information on how citizens can get involved in protecting their drinking water.

The EPA issued regulations providing guidelines for the minimum amount of information that must be included in the reports. The first round of reports was released in October 1999 (summarizing 1998 data), and since then reports have been required to be issued for each year no later than July 1 of the following year. Each report summarizes data on water quality for the previous calendar year.

NRDC's study is based on 2000 and 2001 right-to-know reports, released in mid-2001 and mid-2002, respectively. In our research, we assigned each water utility a right-to-know report citizenship rating. The criteria for this rating are:

- 1.** Form and readability, including compliance with EPA rules regarding format.
- 2.** Content, particularly disclosure of health risks, including compliance with EPA rules regarding content, and EPA recommendations regarding disclosure of pollution sources.
- 3.** Translation of the right-to-know report when more than 10 percent of the population is non-English speaking. (See page 36 for city language data.)

NRDC'S GRADING SYSTEM FOR RIGHT-TO-KNOW REPORTS

See page 34 for city-specific grades.

Excellent. Excellent right-to-know report.

- ▶ Report complies with all EPA right-to-know rules, includes significant information about unregulated contaminants and health effects of all contaminants found at levels above EPA's health goals, and lists and maps major specific sources of pollution of its source water

Good. Generally high-quality right-to-know report.

- ▶ Report complies with all EPA rules and includes at least two of the following: (a) significant information about unregulated contaminants, (b) health effects of at least some contaminants found at levels above the EPA's health goals, or (c) lists and maps major specific sources of pollution of its source water

- ▶ Other significant nonrequired information (such as full translation for non-English speakers, plus other special efforts to educate consumers) can also earn a Good

Fair. Right-to-know report is satisfactory overall.

- ▶ Report basically complies with EPA rules but does not go significantly beyond those minimum requirements

Poor. Report has serious problems and barely passes.

- ▶ Report is not in full compliance with EPA rules but does not contain major violations of EPA right-to-know rules nor appear to mislead consumers seriously

Failing. Report is of high concern.

- ▶ Report has major flaws that substantially violate EPA rules and/or that

As with the drinking water compliance and water quality grades, NRDC believes that while mere compliance with the EPA's regulations is commendable and deserves some credit, water systems should go beyond the minimum requirements to fully educate and be honest with their consumers. NRDC's grading system, summarized in Table 2, reflects that view.

A report that complies with all EPA rules and includes three essential pieces of information—including information about the health effects of all contaminants found at levels above the EPA's health goals, information about any other unregulated contaminants found, and lists and maps of major specific sources of pollution of its source water—earns an Excellent. A report that complies with all EPA rules and includes two of three essential pieces of information listed above or significant non-required information earns a Good. A report that complies with EPA rules but does not go significantly beyond those minimum requirements earns a Fair. A report that is not in compliance with EPA rules, but does not appear to mislead consumers intentionally, gets a Poor. A system with major flaws in its report that substantially violates EPA rules, or that affirmatively misleads consumers, gets a Failing grade.

SOURCE WATER PROTECTION GRADE

NRDC used a variety of information sources to evaluate the threats to source water quality, including EPA databases, water system source water assessments, independent

NRDC'S GRADING SYSTEM FOR SOURCE WATER PROTECTION

Excellent. Source water is extremely well protected and has no significant pollution sources.

- ▶ The source water is in consolidated ownership
- ▶ Development is banned or all but banned in the watershed
- ▶ No significant pollution sources have been identified in the watershed

Good. Source water is protected by significant and active source water protection program, but some potential pollution sources may exist.

- ▶ Most of the watershed or recharge area for the source water is subject to substantial use restrictions
- ▶ Development is minimal
- ▶ No significant pollution sources are routinely, substantially degrading water quality

Fair. Source water has some protections but no significant and active source water protection program.

- ▶ The protection of the watershed is primarily due to state and federal laws such as the Clean Water Act, with little special watershed protection beyond such protections
- ▶ Some significant potential pollution sources
- ▶ Water has not degraded to the point of requiring routine advanced treatment

Poor. Source water is not well protected, and there is clear evidence of substantial source water pollution.

- ▶ There are minimal source water protections with indications of potentially serious pollution problems, such as major poorly controlled waste sites, frequent spills, or serious runoff or sewer overflow problems

Failing. Source water is largely unprotected and has serious contamination problems.

- ▶ Source water protections, if any, have largely failed to prevent serious contamination of the source water by significant pollution sources
- ▶ Source water contamination is so serious that the water system must routinely

organizations' studies of source water threats, and the EPA's Index of Watershed Indicators (IWI) database.

The IWI is a useful tool for determining threats to drinking water sources, and NRDC researchers used its basic grading system to establish numeric grades for threats to source water. The IWI database is a general compilation of indicators, or measures, of the health of water resources in the United States. Measuring watershed health is helpful to gaining a better understanding of how drinking water resources are affected by pollution and other factors. The index is composed of condition and vulnerability indicators. The EPA compiled and analyzed data for each indicator in order to determine an overall index score for the relevant watershed.

NRDC used the IWI database score for its Source Water Protection rating and information in EPA's environmapper database, unless more detailed and up-to-date data were available. In addition, NRDC downgrades that score if a known source of contamination has historically threatened or currently threatens a city's source water for drinking.

The overall IWI index scores range from 1 (few or no problems) to 6 (serious problems). The IWI data is dated from 1990 to 1998, depending on the indicator. As this report was going to press, the EPA removed the readily accessible public version of the IWI from its website, claiming that it was outdated. However, there is no more recent national database available; IWI remains the most comprehensive national database on watershed threats. NRDC's investigation focused on three indicators: (1) sources of drinking water; (2) agricultural runoff potential; and (3) urban runoff potential. In addition, if other significant information about threats to source water was available, NRDC took that information into account in issuing the final grade.

NRDC combined these multiple data sources to assign a grade for source water protection and the vulnerability of source water to pollution.

NOTE

1 An October 2002 California prerelease of this study graded tap water quality in Fresno, Los Angeles, San Diego, and San Francisco.