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# The Water Quality Limited Stream Segments list—What does it mean?

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*Nearly 1,000 stream segments throughout Oregon are included in a draft listing of "Water Quality Limited Stream Segments." Every 2 years, each state is required by the Federal Clean Water Act to develop this list of streams and lakes that need additional protection to achieve or maintain water quality standards.*

*The Water Quality Limited Stream Segments list also is known as the "303(d) list." It has been prepared by the Oregon Department of Environmental Quality based on data and professional observations collected or summarized by federal, state, and local organizations. The list is available for public comment until the end of February, 1996.*

## Why are streams placed on the 303(d) list?

Section 303(d) of the 1972 Federal Clean Water Act requires that each state identify waters that do not meet applicable water quality standards. More precisely, these are waters that do not meet or are not expected to meet water quality standards after application of the best available wastewater treatment technologies to municipal and industrial discharges. These waters are designated as "Water Quality Limited," and placed on the 303(d) list.

Water Quality Limited stream segments are those impacted by point or nonpoint pollution sources to the extent that the water quality is sufficiently impaired to restrict its use. Nonpoint pollution sources are those that enter streams and lakes throughout their surrounding areas, rather than through an identifiable pipe or culvert.

The nonpoint pollution sources may be natural or man-made; however, the most typical are those related to runoff of rainfall and melting snow. Soil erosion is a good example.

Another significant cause of sub-standard quality streams is damage to the natural stream bank ecosystem (the riparian zone). The riparian zone filters sediment from runoff, absorbs nutrients, protects the stream bank from erosion, and provides cover for wildlife. In addition, many riparian zones provide shading of the water surface.

## How are streams identified for the 303(d) list?

Each stream and lake in Oregon is evaluated first to determine its most sensitive beneficial use (for example, livestock watering, salmon spawning, or shellfish growing). By considering the beneficial uses of each water body, specific water quality

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standards may be applied, thus making the system of standards more flexible. For example, the more restrictive fecal coliform bacteria standards required in shellfish-growing areas need not be met in areas where shellfish are not harvested.

Table 1 provides a partial list of the beneficial water uses in Oregon, and the factors of concern that are evaluated to determine whether the water quality supports each use.

After each stream's beneficial uses are identified, its water quality is evaluated against the standards set for those particular uses.

At this time, the process by which stream segments are identified for the 303(d) list is complicated. This is because the Water Quality Standards are in the final phase of the regular Triennial Review process, and there is uncertainty regarding some of the criteria used for evaluation.

The current draft 303(d) list was prepared based on the proposed criteria for bacteria, dissolved oxygen, nitrate, pH, and temperature. The other factors of concern are not under review at this time, so the approved standards were used as the basis for listing. It should be noted, however, that whether the existing or proposed standards are used, the number of stream segments listed will change only slightly.

Criteria for bacteria and temperature are of particular concern because of the impact those standards have on land management decisions. These standards are described in Tables 2 and 3.

**Table 1.—*Beneficial uses of waters of Oregon, and the water quality factors of concern.***

| Beneficial use | Factors of concern |
|---|---|
| Aesthetics | Algae<br>Aquatic weeds<br>Nutrients (P)<br>Turbidity |
| Fishing | Algae<br>Aquatic weeds<br>Nutrients |
| Livestock watering | Algae |
| Resident fish and aquatic life | Biological criteria<br>Dissolved oxygen<br>Habitat<br>Habitat—flow<br>pH<br>Sedimentation<br>Temperature<br>Total dissolved gas<br>Toxics<br>Turbidity |
| Salmonoid fish spawning and rearing | Dissolved oxygen<br>Habitat<br>Habitat—flow<br>Sedimentation<br>Temperature |
| Shellfish growing | Bacteria (fecal coliform) |
| Water contact recreation | Algae<br>Aquatic weeds<br>Bacteria (fecal coliform)<br>Nutrients<br>pH |
| Water supply | Algae<br>Turbidity |

**Table 2.—*Proposed Fecal Coliform Standards for Water in the State of Oregon.***

| Beneficial use | Standard |
|---|---|
| Water contact recreation—no shellfish harvesting | A log mean of 200 fecal coliform organisms per 100 ml based on a minimum of 5 samples in a 30-day period, with no more than 10 percent of the samples in the 30-day period exceeding 400 per 100 ml. |
| Shellfish growing/ harvesting—marine and estuarine shellfish growing areas | A median fecal coliform concentration of 14 organisms per 100 ml, with no more than 10 percent of the samples exceeding 43 organisms per 100 ml. |

**Table 3.—*Proposed water temperature standard.***

The 7-day moving average of the daily maximum temperature shall not exceed the following values. Exceptions may be made under a Department of Environmental Quality-approved basin surface water temperature management plan.

| | |
|---|---|
| General, statewide standard | 64°F (17.8°C) |
| During times and in waters that support salmon spawning, egg incubation, and fry emergence from the egg and from the gravels | 55°F (12.8°C) |
| In waters that support Oregon bull trout | 50°F (10°C) |
| In the Columbia River (mouth to river mile 309) | 68°F (20°C) |
| In the Willamette River (mouth to river mile 50) | 68°F (20°C) |

To prepare the list of Water Quality Limited stream segments, the DEQ uses a combination of readily available data, information, and best professional judgment. Naturally, streams that have been monitored are more likely to be included in the list than are water bodies for which little sampling has been conducted. People who have scientific monitoring data that otherwise may have been missed are encouraged to provide it to the DEQ, to augment its coverage of the state.

A water body can be removed from the 303(d) list when there is evidence that it meets water quality standards, or there is an approved management plan that gives reasonable assurance of bringing it into compliance. The DEQ also is working with federal, state, and local entities to develop a more consistent procedure for the listing and delisting of water bodies.

## What is a Total Maximum Daily Load (TMDL) allocation plan?

From the 303(d) list, each state develops a priority ranking, with water bodies of greatest concern ranked highest. The state then establishes a Total Maximum Daily Load (TMDL) allocation plan for the highest-ranked areas. A TMDL allocation plan establishes limits on the quantity of a pollutant that enters a stream from a specific land user or group of users.

Oregon currently has TMDL allocation plans for nine basins. Those basins and the pollutants of concern are listed in Table 4.

**Table 4.—*Streams and lakes in Oregon for which Total Maximum Daily Load allocation plans (TMDLs) have been established.***

| Basin | Pollutant of Concern |
|---|---|
| Bear Creek (Jackson County) | Phosphorus<br>Biochemical oxygen demand<br>Ammonia |
| Clear Lake (Lane County) | Phosphorus |
| Columbia River | Dioxin |
| Garrison Lake (Curry County) | Phosphorus |
| Pudding River | Biochemical oxygen demand<br>Ammonia |
| Rickreal Creek | Biochemical oxygen demand |
| Tualatin River | Phosphorus<br>Ammonia |
| Willamette River | Dioxin |
| Yamhill River | Phosphorus |

Due to limited budgets, the state is able to support only a small number of water quality personnel; thus only a few TMDL programs can be established and serviced each year. The DEQ is required to establish a minimum of two TMDLs per year.

## Since only a few TMDL programs are implemented each year, what happens if a stream segment is placed on the 303(d) list but no TMDL allocation plan is in progress?

- For those streams, lakes, and rivers not receiving TMDLs, DEQ and other state agencies will work closely with local watershed councils, local governments, organizations representing special interests, and private landowners to develop management plans to reduce pollution. Streams for which management plans have been approved will be removed from the 303(d) list.
- Permits for new or increased discharge loads will not be granted to Water Quality Limited streams unless the pollutant(s) in the discharge are unrelated to the factors causing the violation of the water quality standard.
- Information regarding the Water Quality Limited status of a water body will be used as a basis for developing new water quality programs. This same information will be used as a basis for submitting formal reviews of proposed activities as required under federal or state law.
- The DEQ actively will encourage federal, state and local water quality programs to focus on these water bodies. Examples of such programs are the National Estuary Program, Clean Lakes Program, and Hydrologic Unit area designation.
- The DEQ will focus available grant funding on basins with approved TMDLs, or basins that are high on the 303(d) priority list. Other funding sources also may give priority to TMDL basins or high-ranking 303(d) listed waters.

## How can I comment?

To give input on the 303(d) list, or for more information, contact Andy Schaedel, Water Quality Division, Department of Environmental Quality, 811 SW Sixth Ave., Portland, OR 97204-1390, (503) 229-6121, or toll-free in Oregon, 1-800-452-4011.

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