



Applying knowledge to improve water quality

Pacific Northwest

Regional Water Program

A Partnership of USDA CSREES
& Land Grant Colleges and Universities

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PNWWATER 018

Citizens Grade Surface Water Quality

A 50-question survey was developed by the Pacific Northwest water quality team to document public awareness, aptitudes, attitudes and actions toward water quality in Alaska, Idaho, Oregon and Washington. Demographic data about the survey respondents were also collected. This statistically designed survey was completed by over 50 percent of the 1,800 residents who were solicited for this study. As part of the water attitude portion of this survey, residents were asked to rate (grade) the condition of their local surface waters (lakes, rivers, streams). Respondents were asked to grade local surface water as one of the following: (1) good or excellent; (2) good and improving; (3) good, but deteriorating; (4) fair; (5) poor, but improving; (6) poor or (7) no opinion. The sampling error of the survey was +/- 3.0 percent.

Sixty-five percent of survey respondents rated surface water quality good or better (sum of “good or excellent,” “good and improving” and “good, but deteriorating”) (Table 1). Another 19 percent of respondents graded surface water quality as fair. Conversely, less than 10 percent of respondents felt that the quality of local surface water was poor. On the surface about two-thirds of the respondents felt positive about local surface water quality. However, almost one-third of the respondents citing surface water quality as good are concerned about deterioration of this resource.

Table 1. The grading of surface water quality by residents of Alaska, Idaho, Oregon and Washington.

Surface water quality grade	%
Good or excellent	22
Good and improving	24
Good, but deteriorating	19
Fair	19
Poor, but improving	4
Poor	5
No opinion	7

The demographic factors of gender, state of residence, age and community size had a significant impact on how people viewed surface water quality. In discussing demographic differences the “good or excellent” and “good and improving” responses were pooled. Both poor response choices were also pooled. Based on this survey a higher percentage of males than females rated surface water quality as good + (Table 2). Females were more likely to rate surface water quality fair or not to have an opinion.

Alaska residents were most likely to rate surface water quality good + (good or excellent plus good and improving) than residents of other states (Table 3). Conversely, a lower percentage of Oregon residents rated surface water quality as good + (3 percent difference is statistically significant). A large percentage of Oregon residents (17 percent) ranked surface water quality poor compared to the other three Pacific Northwest states. Based on these results Alaskans felt that their surface water quality was best. Residents of Idaho and Washington

Table 2. The influence of gender on grading surface water quality by residents of Alaska, Idaho, Oregon and Washington.

Surface water quality	Female %	Male %
Good +	38	50
Good -	20	19
Fair	23	18
Poor	10	8
No opinion	9	5



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gave intermediate surface water quality grades, while Oregonians were most critical of their surface water quality.

Table 3. The influence of state of residence (Alaska, Idaho, Oregon and Washington) on surface water quality grades.

Water quality	State			
	AK(%)	ID(%)	OR(%)	WA(%)
Good +	74	43	37	46
Good -	13	23	18	20
Fair	10	22	23	19
Poor	1	8	17	7
No opinion	2	4	6	8

A higher percentage of older respondents (40+ years) than younger respondents viewed surface water quality as good or better (Table 4). Conversely, younger respondents were more likely to rate local surface water quality as fair or poor than people over 40 years old.

Table 4. The influence of respondent's age in Alaska, Idaho, Oregon and Washington on grading surface water quality.

Water quality	Age in years		
	< 40(%)	40-59(%)	> 59(%)
Good +	37	50	51
Good -	17	20	18
Fair	27	16	17
Poor	13	9	6
No opinion	6	5	8

Community size had an impact on how respondents viewed the quality of surface water (Table 5). In general people in smaller communities were more likely to rate surface water quality as good or better than residents of communities with more than 25,000 people. A larger percentage of residents in communities with more than 25,000 rated surface water quality poor.

Table 5. The influence of community size in Alaska, Idaho, Oregon and Washington on grading surface water quality.

Water quality	Population in 1000's			
	100+(%)	25-100(%)	7-25(%)	< 7(%)
Good +	40	44	51	55
Good -	23	19	23	11
Fair	20	19	18	21
Poor	12	11	5	5
No opinion	5	7	3	8

The survey results shown above indicate that almost two-thirds of people in Alaska, Idaho, Oregon and Washington rate surface water quality as good. Based on the information learned from this survey question the land grant universities in the Pacific Northwest plan to develop educational programs to meet water quality information needs.

CSREES is the Cooperative States Research, Education, and Extension Service, a sub-agency of the United States Department of Agriculture, and is the federal partner in this water quality program.