

## **APPENDIX K**

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# Water Quality Index Scores



## **A Water Quality Index Developed for Washington State Streams. Vers3b:12/13/02**

### **Summary**

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This Water Quality Index is designed to rate general water quality relative to expected quality. Monitoring results from monthly grab samples can be converted to scores ranging from 1 to 100. In general, scores less than 40 indicate water quality did not meet expectations. These are areas of highest concern. Scores of 40 to 79 indicate moderate concern, and scores of 80 and greater indicate water quality met expectations and are of lowest concern.

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### **Limitations**

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Indexes by design contain less information than the raw data that they summarize; many uses of water quality data cannot be met with an index. An index is most useful for comparative purposes (what stations have particularly poor water quality compared to expectations?) and for general questions (how is water quality in my stream?). Indexes are less suited to specific questions. Site-specific decisions should be based on an analysis of the original water quality data. This index should not be used to compare stations unless expectations are the same. In short, an index is a useful tool for "communicating water quality information to the lay public and to legislative decision makers;" it is not "a complex predictive model for technical and scientific application" (McClelland, 1974).

Besides being general in nature (imprecise), there are at least two reasons that any index may fail to accurately communicate water quality information. First, this index, like most indexes, is based on a pre-identified set of water quality constituents. A particular station may receive a good WQI score, and yet have water quality impaired by constituents not included in the index. Second, aggregation of data may mask short-term water quality problems. A satisfactory WQI at a particular station does not necessarily mean that water quality was always satisfactory. A good score should, however, indicate that poor water quality (for evaluated constituents, at least) was not chronic.

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### **Directions**

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This spreadsheet is designed to convert and aggregate results from grab samples from a single station and a single year to index scores (up to 12 samples). Scores must be determined separately for additional stations or years. Twelve monthly samples are not required. Scores may be based on as little as a single sample--though this, of course, may not be sufficiently representative to accurately assess water quality.

There are five tabs. The first, this one, contains instructions and narrative information. The second "Main" tab is where you enter your data and view the index scores. The third "Interim Results" tab shows scores for each individual result. The fourth "Curves" tab contains the data used to calculate scores. The fifth "Notes" tab is for you to use as you wish. I have used it to convert some data in text format (top) to numbers (bottom) which can then be copied to the main tab (paste special/values).

Under the "Main" tab:

1. Enter the station's class (A, AA, or B), ecoregion (1-4, 6-8), and glacial status ("TRUE" if, in your judgement, sediment or turbidity is noticeably impacted by glacial melt, otherwise "FALSE").
  2. Enter the data for the year being evaluated. We use water years, but the index may be calculated on a calendar year
  3. Click the "Update Default Curve Numbers" button. This determines the curves to be used based on your station's ecoregion and class. (Note: This does not reset the "Curve to Use." If you changed those for a particular station, you will need to reset them manually.)
  4. Edit the "Curve to Use" numbers if desired (see the "Curves" tab). You may want to do this if there is a station-specific criterion different than the standard class criterion (some special curves are available in the "Curves" tab; you may also add your own, though you will have to unlock the worksheet to edit this tab). You might also want to change the curve numbers if you believe the default curves do not accurately reflect expected conditions for your stream. Keep in mind, however, that if you do not use the standard curve numbers, your results will not be comparable with other stations where standard curves
  5. Click the "Calc Individual WQI Scores" button. This converts individual sample results to scores (stored under the "Interim Results" tab) and aggregates monthly scores.
  6. Click the "Calc Constituent & Overall Scores" button. This aggregates the constituent scores and determines the overall score.
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### **If you have trouble**

Make sure your data are entered as numbers and not as text.

If you have added your own criteria curves, you must sort the "Curves" worksheet by parameter.

Make sure you have enabled macros. You may also need to set security to "low" (Tools/Macro/Security)

Contact me (see below)

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### **For more information**

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There is an overview of the WQI on the web here: [http://www.ecy.wa.gov/programs/eap/fw\\_riv/docs/WQIOverview.html](http://www.ecy.wa.gov/programs/eap/fw_riv/docs/WQIOverview.html). A detailed description is here: <http://www.ecy.wa.gov/biblio/0203052.html>. You may contact Dave Hallock at [daha461@ecy.wa.gov](mailto:daha461@ecy.wa.gov) or 360 407-6681. You may download the most recent version of this application here: [http://www.ecy.wa.gov/programs/eap/fw\\_riv/docs/WQIVer3.xls](http://www.ecy.wa.gov/programs/eap/fw_riv/docs/WQIVer3.xls)

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## Change History

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11/19/02: Fixed a "divide by zero" error when no data were entered for a particular constituent or month.  
11/19/02: Changed title of "Calc Individual WQI scores" button to "Calc Interim WQI scores"  
11/19/02: Added text to instructions to clarify that security must be set to "low"/macros must be enabled to run the code.  
12/13/02: Limited monthly scores to 1. (Overall score was also being miscalculated when monthly scores were <1.)  
09/10/03: Modified code to use similar ecoregions for ecoregions where there were insufficient data to develop curves.  
Added error handling for unrecognized stream class and ecoregion.

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: A310  
 Class: A  
 Ecoregion: 2  
 Glacial: FALSE

KEY
Input
Low Concern
Moderate Concern
High Concern

Overall Score: 75

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	80	12.3	7.20	0.03	7.30	5.70	0.63	4.93	87
2/13/02	11	12.4	7.10	0.03	4.06	5.30	0.76	2.54	82
3/26/02	8	11.3	6.80	0.03	8.44	7.00	0.74	2.80	82
4/25/02	13	10.6	6.80	0.03	9.83	8.70	0.48	7.48	93
8/6/02	53	9.0	7.10	0.04	3.40	15.80	0.56	2.20	75
11/7/02	450	8.4	6.90	0.04	3.56	8.30	0.63	4.18	68
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>77</b>	<b>83</b>	<b>88</b>	<b>79</b>	<b>94</b>	<b>88</b>	<b>65</b>	<b>93</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: E319  
 Class: AA  
 Ecoregion: 2  
 Glacial: FALSE

Update default  
curve numbers

Calc Interim WQI  
scores

Calc Constituent &  
Overall Scores

KEY
Input
Low Concern
Moderate Concern
High Concern

**Overall Score: 91**

Default Curve No.:

53      23      43      72      82      14      62      92

Curve to Use:

53      23      43      72      82      14      62      92

Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
2/13/02	0	12.9	7.80	0.01	0.50	3.50	0.23	0.57	99
6/12/02	2	11.3	7.40	0.01	0.62	8.40	0.06	1.20	99
8/6/02	2	10.4	6.10	0.01	1.72	12.70	0.19	0.86	81
10/22/02	0	10.5	7.90	0.02	1.40	11.70	0.20	1.40	94
11/7/02	5	10.6	7.30	0.01	1.90	6.70	0.15	1.40	98
12/12/02	5	12.7	7.80	0.01	4.02	4.30	0.32	4.00	98
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	99	88	67	96	99	90	94	98	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station:	A307
Class:	A
Ecoregion:	2
Glacial:	FALSE
<b>Overall Score:</b>	<b>43</b>

Update default curve numbers	Calc Interim WQI scores	Calc Constituent & Overall Scores
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KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100ml	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	500	11.3	7.50	0.08	29.10	7.20	1.61	24.10	36
2/13/02	197	12.4	7.80	0.04	3.38	7.50	1.69	4.00	51
3/26/02	73	11.4	7.60	0.04	4.06	8.10	1.58	3.09	60
4/25/02	52	11.1	7.90	0.04	2.68	10.70	1.48	2.51	60
8/6/02	260	11.0	8.00	0.05	4.43	12.50	1.35	3.99	46
12/12/02	304	11.0	7.40	0.07	14.41	9.00	2.90	11.12	46
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	65	97	93	64	87	98	1	83	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: C317  
 Class: A  
 Ecoregion: 2  
 Glacial: FALSE  
**Overall Score: 20**

KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
2/13/02	88	8.7	7.20	0.08	6.20	5.20	1.08	15.60	60
3/26/02	53	7.7	6.90	0.08	6.10	9.90	0.93	14.60	58
4/25/02	30	9.1	7.10	0.11	36.30	13.80	1.10	41.80	50
6/12/02	450	4.0	7.30	0.08	8.60	15.40	0.98	19.90	1
8/6/02	340	11.1	7.50	0.07	7.42	16.00	0.71	9.36	50
11/7/02	820	5.4	7.30	0.09	6.80	10.40	1.30	12.70	9
12/12/02	540	8.1	7.00	0.08	8.60	8.40	0.84	14.30	51
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>57</b>	<b>25</b>	<b>90</b>	<b>53</b>	<b>82</b>	<b>88</b>	<b>13</b>	<b>69</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station:	A317
Class:	A
Ecoregion:	2
Glacial:	FALSE
<b>Overall Score:</b>	<b>1</b>

Update default curve numbers	Calc Interim WQI scores	Calc Constituent & Overall Scores
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KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
2/13/02	43	7.7	6.80	0.10	6.50	5.70	1.18	15.20	52
6/12/02	76	3.0	6.70	0.10	9.00	16.00	1.20	18.70	1
8/6/02	470	3.7	7.10	0.12	5.60	15.20	1.07	10.50	1
10/22/02	68	4.7	7.00	0.11	9.29	12.30	0.95	20.00	16
11/7/02	1200	4.5	6.60	0.08	8.00	10.00	1.04	13.30	1
12/12/02	630	7.7	6.60	0.13	32.00	8.00	0.81	26.10	33
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>53</b>	<b>5</b>	<b>83</b>	<b>38</b>	<b>81</b>	<b>88</b>	<b>5</b>	<b>68</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station:   
 Class:   
 Ecoregion:   
 Glacial:   
**Overall Score:**

Update default  
curve numbers

Calc Interim WQI  
scores

Calc Constituent &  
Overall Scores

KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	340	12.5	7.40	0.05	22.70	7.10	0.75	19.20	65
2/13/02	18	14.0	7.50	0.02	2.10	3.20	0.72	2.08	85
2/21/02	280	11.9	7.40	0.05	7.20	9.00	1.01	7.08	53
3/26/02	19	12.4	7.80	0.02	3.60	8.30	0.71	2.14	97
4/25/02	67	12.2	7.70	0.02	3.23	10.70	0.67	2.70	96
6/12/02	190	10.8	7.80	0.05	2.00	13.10	0.80	1.00	71
8/6/02	190	12.5	8.00	0.06	0.50	13.80	0.57	2.00	67
10/22/02	62	10.5	8.10	0.13	1.88	12.60	0.57	0.98	63
11/7/02	450	11.1	7.70	0.06	0.82	9.70	0.80	4.00	61
12/12/02	290	11.7	7.70	0.05	8.80	8.90	0.71	9.98	70
									0
									0
<b>Constituent Scores:</b>	64	96	91	51	91	95	44	85	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station:	B317
Class:	A
Ecoregion:	2
Glacial:	FALSE
<b>Overall Score:</b>	<b>1</b>

Update default curve numbers	Calc Interim WQI scores	Calc Constituent & Overall Scores
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KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	570	11.2	7.20	0.07	33.80	7.40	0.68	35.70	1
2/13/02	84	9.9	7.00	0.06	14.40	5.60	1.33	15.30	1
6/12/02	540	5.8	7.00	0.08	6.20	16.50	1.71	17.80	7
8/6/02	3600	4.6	7.10	0.07	4.00	15.70	1.61	7.36	53
10/22/02	330	3.8	7.20	0.05	3.74	12.20	1.42	5.38	56
11/7/02	4700	5.7	6.70	0.10	23.80	9.90	1.37	24.80	1
12/12/02	2500	8.9	6.80	0.11	41.00	8.10	0.86	32.70	24
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>25</b>	<b>21</b>	<b>86</b>	<b>53</b>	<b>80</b>	<b>86</b>	<b>1</b>	<b>68</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: A315  
 Class: A  
 Ecoregion: 2  
 Glacial: FALSE  
**Overall Score: 16**

Update default curve numbers

Calc Interim WQI scores

Calc Constituent & Overall Scores

KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	3500	10.1	7.00	0.19	16.30	6.60	1.25	16.80	16
2/13/02	23	12.4	7.20	0.07	15.40	2.00	1.35	15.20	59
4/25/02	890	8.3	7.20	0.08	11.50	10.00	1.21	14.00	33
6/29/02	3400	6.6	7.10	0.13	21.00	17.30	1.17	11.90	1
8/6/02	490	10.1	7.50	0.04	1.71	15.70	1.03	2.24	41
10/22/02	360	9.2	7.60	0.04	2.30	12.20	0.81	3.16	50
11/7/02	440	7.1	7.50	0.06	3.37	8.80	1.34	4.67	32
12/4/02	170	9.9	7.00	0.04	2.92	6.70	0.82	5.15	67
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>33</b>	<b>65</b>	<b>93</b>	<b>44</b>	<b>82</b>	<b>83</b>	<b>1</b>	<b>78</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: A330  
 Class: A  
 Ecoregion: 2  
 Glacial: FALSE

Update default  
 curve numbers

Calc Interim WQI  
 scores

Calc Constituent &  
 Overall Scores

KEY
Input
Low Concern
Moderate Concern
High Concern

Overall Score: 69

Default Curve No.:

51      21      41      72      82      11      62      92

Curve to Use:

51      21      41      72      82      11      62      92

Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	260	12.2	7.10	0.06	50.20	7.00	0.83	21.90	55
2/13/02	4	12.9	7.30	0.02	2.80	5.70	0.87	1.90	76
3/26/02	4	12.2	7.70	0.02	2.90	8.40	0.78	1.60	82
4/25/02	6	12.3	7.50	0.03	2.58	8.10	0.81	1.80	80
6/12/02	70	11.2	7.80	0.05	4.62	11.60	0.89	2.30	79
8/6/02	81	12.3	7.90	0.05	5.57	11.20	0.97	3.00	78
10/22/02	33	11.5	7.90	0.04	11.50	10.60	0.84	5.22	82
11/7/02	38	11.2	7.80	0.04	5.31	9.40	0.79	3.01	79
12/12/02	76	11.8	7.60	0.05	13.80	8.80	0.80	7.50	76
									0
									0
									0
<b>Constituent Scores:</b>	78	97	94	66	80	100	23	84	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station:	Y320
Class:	A
Ecoregion:	2
Glacial:	FALSE
<b>Overall Score:</b>	<b>30</b>

Update default curve numbers	Calc Interim WQI scores	Calc Constituent & Overall Scores
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KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100ml	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
2/13/02	280	9.7	7.3	0.03	7.2	3.8	1.49	5.51	47
6/12/02	440	4	6.8	0.04	4.69	13.3	0.86	2.54	3
12/12/02	950	8.3	7	0.04	5.4	6.9	0.91	9.13	41
									0
									0
									0
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>59</b>	<b>25</b>	<b>88</b>	<b>79</b>	<b>94</b>	<b>96</b>	<b>26</b>	<b>92</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: F321  
 Class: A  
 Ecoregion: 2  
 Glacial: FALSE  
**Overall Score: 80**

KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	14	11.3	7.60	0.02	1.20	8.00	0.64	0.86	90
3/26/02	6	12.3	7.80	0.01	1.20	8.40	0.71	0.62	86
6/12/02	3	11.5	7.80	0.02	1.80	10.40	0.61	0.50	79
10/22/02	8	12.1	7.90	0.01	0.50	9.50	0.66	2.00	75
11/7/02	6	11.7	8.20	0.01	0.62	9.40	0.58	2.00	92
12/4/02	3	12.1	7.30	0.01	0.84	8.90	0.59	2.00	93
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>99</b>	<b>98</b>	<b>88</b>	<b>94</b>	<b>100</b>	<b>100</b>	<b>60</b>	<b>98</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: 0322  
 Class: A  
 Ecoregion: 2  
 Glacial: FALSE  
**Overall Score: 52**

Update default  
curve numbers

Calc Interim WQI  
scores

Calc Constituent &  
Overall Scores

KEY
Input
Low Concern
Moderate Concern
High Concern

	51	21	41	72	82	11	62	92	
Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
2/13/02	23	12.5	7.80	0.07	2.90	4.00	2.85	2.65	62
6/12/02	160	9.6	8.20	0.06	6.50	16.40	1.70	1.90	47
8/6/02	200	10.1	7.80	0.05	2.32	13.00	1.96	1.50	50
10/22/02	39	11.1	7.80	0.05	1.40	11.20	1.55	0.66	61
11/7/02	12	11.0	7.70	0.03	1.20	8.40	1.50	0.81	62
									0
									0
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>79</b>	<b>91</b>	<b>88</b>	<b>62</b>	<b>95</b>	<b>86</b>	<b>1</b>	<b>97</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: D322  
 Class: A  
 Ecoregion: 2  
 Glacial: FALSE

Update default  
curve numbers

Calc Interim WQI  
scores

Calc Constituent &  
Overall Scores

KEY
Input
Low Concern
Moderate Concern
High Concern

**Overall Score: 61**

Default Curve No.: 51 21 41 72 82 11 62 92  
 Curve to Use: 51 21 41 72 82 11 62 92

Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
2/13/02	19	12.0	7.60	0.08	3.19	3.70	3.99	4.25	62
3/26/02	26	11.0	7.30	0.07	6.58	7.60	3.33	4.39	61
4/25/02	70	11.0	7.40	0.05	4.76	9.70	2.95	3.56	60
									0
									0
									0
									0
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	90	97	98	68	98	100	1	96	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station:	B322
Class:	A
Ecoregion:	2
Glacial:	FALSE
<b>Overall Score:</b>	<b>16</b>

Update default curve numbers	Calc Interim WQI scores	Calc Constituent & Overall Scores
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KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100ml	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	2000	9.3	6.50	1.42	3.20	4.80	3.57	5.04	22
3/26/02	54	11.6	7.50	0.07	3.90	7.20	2.04	2.98	61
6/12/02	530	6.8	7.10	0.92	4.50	14.80	6.19	4.89	24
12/13/02	39000	1.5	7.00	3.35	18.00	6.70	14.70	31.20	1
									0
									0
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	<b>32</b>	<b>1</b>	<b>80</b>	<b>1</b>	<b>92</b>	<b>92</b>	<b>1</b>	<b>83</b>	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: I322B  
 Class: A  
 Ecoregion: 2  
 Glacial: FALSE  
**Overall Score: 32**

KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
2/21/02	440	11.3	7.50	0.05	1.10	7.60	1.82	3.31	44
6/12/02	680	8.0	7.00	0.06	0.82	13.90	2.54	0.66	32
8/6/02	570	6.2	6.80	0.04	0.60	13.50	2.05	0.51	20
									0
									0
									0
									0
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	57	59	88	68	100	94	1	99	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station:	S322
Class:	A
Ecoregion:	2
Glacial:	FALSE
<b>Overall Score:</b>	<b>52</b>

Update default  
curve numbers

Calc Interim WQI  
scores

Calc Constituent &  
Overall Scores

KEY
Input
Low Concern
Moderate Concern
High Concern

Default Curve No.:	51	21	41	72	82	11	62	92	
Curve to Use:	51	21	41	72	82	11	62	92	
Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
11/7/02	220	10.2	7.60	0.01	0.50	8.20	0.14	2.00	87
12/12/02	99	11.4	7.70	0.06	32.31	7.00	2.01	24.26	52
									0
									0
									0
									0
									0
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	71	94	98	71	80	100	1	74	

# A Water Quality Index for Washington State streams (DRAFT: 11/19/02).

Station: A341  
 Class: AA  
 Ecoregion: 4  
 Glacial: FALSE

Update default  
curve numbers

Calc Interim WQI  
scores

Calc Constituent &  
Overall Scores

KEY  
 Input  
 Low Concern  
 Moderate Concern  
 High Concern

Overall Score: 29

Default Curve No.: 53 23 43 73 83 14 63 93  
 Curve to Use: 53 23 43 73 83 14 63 93

Date	FC col/100mL	Oxygen mg/L	pH std. Units	TP mg/L	TSS mg/L	Temp C	TN mg/L	Turbidity NTU	Monthly Scores
1/24/02	160	11.7	7.00	0.04	16.00	6.30	1.37	11.00	24
2/13/02	7	11.8	7.70	0.01	3.94	5.90	1.28	1.94	59
3/26/02	5	11.9	7.50	0.01	3.84	6.00	1.15	2.49	60
4/25/02	15	12.1	7.70	0.01	3.75	6.90	1.01	1.84	59
6/29/02	330	10.6	7.20	0.03	24.60	10.50	1.78	14.80	3
									0
									0
									0
									0
									0
									0
									0
									0
<b>Constituent Scores:</b>	70	90	93	64	54	95	1	48	

