



**GUIDELINES FOR COMPLETING A  
FIELD RISK ASSESSMENT  
FOR COMPLIANCE WITH  
WASTE DISCHARGE REQUIREMENTS  
GENERAL ORDER NO. R5-2007-0035  
FOR EXISTING MILK COW DAIRIES**

Source of Discharge	Date Sample Collected	Discharge Sample Results	Receiving Water Limitations <sup>i</sup>	Assessment
(circle the appropriate source)  Process Wastewater  OR  Manure	_____	<u>Lab:</u> Total NH <sub>4</sub> -N _____ mg/L  Unionized NH <sub>4</sub> -N _____ mg/L  NO <sub>3</sub> -N _____ mg/L  Total P _____ mg/L	Total NH <sub>4</sub> -N – see attached Chart <sup>ii</sup>  Unionized NH <sub>4</sub> -N – 0.02 mg/L  NO <sub>3</sub> -N - 10 mg/L  Total P <sup>iii</sup> – 1 mg/L	Are the discharge sample results for any one of total NH <sub>4</sub> -N, unionized NH <sub>4</sub> -N, NO <sub>3</sub> -N, or total P greater than the receiving water limitations?  <input type="checkbox"/> Yes <sup>iv</sup> <input type="checkbox"/> No
Storm Water	_____	<u>Field:</u> Total NH <sub>4</sub> -N _____ mg/L  Unionized NH <sub>4</sub> -N _____ mg/L  <u>Lab:</u> NO <sub>3</sub> -N _____ mg/L  Total P _____ mg/L	Total NH <sub>4</sub> -N – see attached Chart  Unionized NH <sub>4</sub> -N – 0.02 mg/L  NO <sub>3</sub> -N - 10 mg/L  Total P – 1 mg/L	Are the discharge sample results for any one of total NH <sub>4</sub> -N, unionized NH <sub>4</sub> -N, NO <sub>3</sub> -N, or total P greater than receiving water limitations?  <input type="checkbox"/> Yes <sup>1</sup> <input type="checkbox"/> No



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<p align="center">Tailwater (when discharged less than 60 days after application of manure and/or process wastewater)</p>	<p align="center">_____</p>	<p>Field: Total NH<sub>4</sub>-N _____ mg/L</p> <p>Unionized NH<sub>4</sub>-N _____ mg/L</p> <p>Lab: NO<sub>3</sub>-N _____ mg/L</p> <p>Total P _____ mg/L</p>	<p>Total NH<sub>4</sub>-N – see attached Chart</p> <p>Unionized NH<sub>4</sub>-N – 0.02 mg/L</p> <p>NO<sub>3</sub>-N - 10 mg/L</p> <p>Total P – 1 mg/L</p>	<p>Are the discharge sample results for any one of total NH<sub>4</sub>-N, unionized NH<sub>4</sub>-N, NO<sub>3</sub>-N, or total P greater than receiving water limitations?</p> <p align="center"><input type="checkbox"/> Yes<sup>5</sup> <input type="checkbox"/> No</p>
<p align="center">Subsurface (tile) Drainage</p>	<p align="center">_____</p>	<p>Lab: NO<sub>3</sub>-N _____ mg/L</p> <p>Total P _____ mg/L</p>	<p>NO<sub>3</sub>-N - 10 mg/L</p> <p>Total P – 1 mg/L</p>	<p>Are the discharge sample results for any one of NO<sub>3</sub>-N or total P greater than receiving water limitations?</p> <p align="center"><input type="checkbox"/> Yes<sup>5</sup> <input type="checkbox"/> No</p>



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<sup>i</sup> Less stringent limitations may apply to different areas but can only be determined through a site-specific assessment. Individual Dischargers may propose the application of less stringent limitations for consideration in monitoring and reporting programs.

<sup>ii</sup> From Water Quality Goals, available at

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/water\\_quality\\_standards\\_limits/water\\_quality\\_goals/limit\\_tables\\_2008.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_standards_limits/water_quality_goals/limit_tables_2008.pdf). Determine the total ammonia-nitrogen concentration based on the pH and temperature for the Continuous Concentration, 30-day Average for Fish Early Life Stages Present as shown in the table.

<sup>iii</sup> The total phosphorus receiving water limitation is an interim limitation until a limit is established. This interim limit is based on consideration of the *Nutrient Criteria Development; Notice of Ecoregional Nutrient Criteria* (Federal Register: January 6, 2003 (Volume 68, Number 3), which establishes a nutrient criteria for total phosphorus of 0.047 mg/l in streams and rivers for ecoregion 1 (Willamette and Central Valleys) and on the USEPA *Results of the Nationwide Urban Runoff Program* (EPA #832R83112, December 1983), which reported a 90<sup>th</sup> percentile median concentration of 0.70 mg/L total phosphorus for urban runoff nationwide.

<sup>iv</sup> If yes, your Nutrient Management Plan must propose changes to your waste management practices that will eliminate any discharges of process wastewater or manure to surface water from the land application area(s) since such discharges are prohibited under the General Order.

<sup>v</sup> If yes, you must include in your Nutrient Management Plan proposed changes to your waste management practices that will eliminate the discharge, reduce the discharge concentrations to below the receiving water limit, or that will provide further evaluation on the impact to surface water.

# WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS FRESHWATER AQUATIC LIFE - AMMONIA

USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life																							
Total Ammonia Nitrogen																							
Continuous Concentration, 30-day Average (mg N/L) ‡																			Maximum Concentration		pH		
pH	Fish Early Life Stages Present										Fish Early Life Stages Absent								1-hour Average (mg N/L)				
	Temperature, degrees C										Temperature, degrees C								Salmonids Present	Salmonids Absent			
0	14	16	18	20	22	24	26	28	30	0-7	8	9	10	11	12	13	14	15 †	16 †	Present	Absent		
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06	32.6	48.8	6.5
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97	31.3	46.8	6.6
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86	29.8	44.6	6.7
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72	28.0	42.0	6.8
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56	26.2	39.2	6.9
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37	24.1	36.1	7.0
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15	21.9	32.9	7.1
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90	19.7	29.5	7.2
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61	17.5	26.2	7.3
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30	15.3	23.0	7.4
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97	13.3	19.9	7.5
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61	11.4	17.0	7.6
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25	9.64	14.4	7.7
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	8.11	12.1	7.8
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54	6.77	10.1	7.9
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21	5.62	8.41	8.0
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91	4.64	6.95	8.1
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63	3.83	5.73	8.2
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39	3.15	4.71	8.3
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17	2.59	3.88	8.4
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990	2.14	3.20	8.5
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836	1.77	2.65	8.6
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707	1.47	2.20	8.7
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601	1.23	1.84	8.8
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513	1.04	1.56	8.9
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442	0.885	1.32	9.0

Notes:

† At 15 C and above, the criterion for fish early life stages absent is the same as the criterion for fish early life stages present.

‡ In addition, the highest four-day average within the 30-day period should not exceed 2.5 times the Criteria Continuous Concentration shown in the above table.

### Criteria Continuous Concentration

30-day average total ammonia nitrogen (in mg N/L) ‡

when fish early life stages are present:



when fish early life stages are absent:



where T = temperature in degrees C

### Criteria Maximum Concentration

1-hour average total ammonia nitrogen (in mg N/L)

where salmonid fish are present:



where salmonid fish are not present:

