



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
 1200 Sixth Avenue
 Seattle, WA 98101

APR 16 2001

Reply To
 Attn Of: OW-134

David Mabe, Administrator
 State Water Quality Programs
 Idaho Department of Environmental Quality
 1410 N. Hilton
 Boise, Idaho 83706-1255

RECEIVED

APR 18 2001

DEPARTMENT OF ENVIRONMENTAL QUALITY
 STATE WATER QUALITY PROGRAMS

Re: Approval of the Portneuf River TMDL

Dear Mr. Mabe:

The U.S. Environmental Protection Agency (EPA) is pleased to approve the Portneuf River Total Maximum Daily Load (TMDL) submitted to us on April 7, 1999 for the following parameters:

<u>Waterbody</u>	<u>Hydrologic Unit Code</u>	<u>TMDL Parameters</u>
Portneuf River	17040208	Bacteria, Nutrients, Sediment, Oil and Grease
Pocatello Creek	17040208	Sediment
Rapid Creek	17040208	Sediment
Bell March Creek	17040208	Nutrients, Sediment
Garden Creek	17040208	Nutrients, Sediment
Hawkins Creek	17040208	Nutrients, Sediment
Birch Creek	17040208	Nutrients, Sediment
Cherry Creek	17040208	Nutrients, Sediment
Twentyfourmile Creek	17040208	Sediment
Gibson Jack Creek	17040208	Sediment
Mink Creek	17040208	Nutrients, Sediment
Walker Creek	17040208	Sediment
Goodenough Creek	17040208	Sediment
Garden Creek	17040208	Nutrients, Sediment
Dempsey Creek	17040208	Sediment
Pebble Creek	17040208	Sediment
Toponce Creek	17040208	Sediment

This approval includes a total of 26 TMDLs for water-quality limited segments in the Portneuf River Subbasin on the 1998 303(d) List; 17 TMDLs for sediment, 8 TMDLs for nutrients, and 1 TMDL for bacteria.

It is our understanding that as a follow-up to this TMDL, the Idaho Department of Environmental Quality (IDEQ) and the Portneuf River stakeholder group will prepare a detailed monitoring plan to better define the sources of nutrient loading. Currently, the TMDL assigns gross load allocations to non-point sources. It is our expectation that this monitoring plan will allow IDEQ to identify sources more specifically and target reductions accordingly in the implementation phase.

We appreciate the effort of the Idaho Division of Environmental Quality in developing this TMDL, in particular the excellent work of Mike Rowe. We look forward to implementation of the TMDL, and continuing to work collaboratively on water quality issues in the Portneuf River.

By EPA's approval, this TMDL is now incorporated into the state's Water Quality Management Plan under Section 303(e) of the Clean Water Act. If you have any comments or questions, please feel free to call me at (206) 553-1261, or you may call Curry Jones of my staff at (206) 553-6912.

Sincerely,



 Randall F. Smith, Director
Office of Water

cc: Stephen Allred, IDEQ
Doug Conde, IDEQ
Mike McIntyre, IDEQ
Don Essig, IDEQ
Mark Dietrich, IDEQ - Pocatello
Mike Rowe, IDEQ - Pocatello

TMDL REVIEW

TMDL:	Portneuf River
Pollutant:	Bacteria
Waters Addressed:	Portneuf River (HUC 1704208)
Review Completed:	April 4, 2001
Reviewers:	Curry Jones

<u>Required TMDL Elements</u>		
1. Are waters addressed by the TMDL identified and consistent with the §303(d) list:	Yes X	No <input type="checkbox"/>
2. Loading Capacity:	Yes X	No <input type="checkbox"/>
3. Load Allocations:	Yes X	No <input type="checkbox"/>
4. Wasteload Allocations:	Yes X	No <input type="checkbox"/>
5. MOS:	Yes X	No <input type="checkbox"/>
6. Seasonal Variation:	Yes X	No <input type="checkbox"/>
7. Evaluation of critical conditions:	Yes X	No <input type="checkbox"/>
8. Reasonable Assurance	Yes X	No <input type="checkbox"/>
9. Public Participation	Yes X	No <input type="checkbox"/>
Documents Reviewed:		
<ol style="list-style-type: none"> 1. Portneuf River TMDL - Waterbody Assessment and Total Maximum Daily Load. Idaho Division of Environmental Quality. March 1999. 2. IDEQ, 1999b. Overview for the Implementation of Nonpoint Source TMDLs. Final Draft. Idaho Division of Environmental Quality. August, 1999. 3. Letter From: Dave Mabe, State Water Quality Program Administrator, To: Randall Smith, Director, Office of Water, Re: Response to EPA Comments on Portneuf Subbasin (HUC 17050208), July 13, 2000. Enclosure: Response to EPA Review Comments and Addendum to the Portneuf River TMDL (July 7, 2000). 		

Reviewers Comments	
Identification of Waters	<p>Waters addressed by the TMDL are identified in sections 1 and 2 of the subbasin assessment and Section 3.1 of the TMDL (Table 41) - Portneuf river subbasin, Hydrologic Unit Code 17040208.</p> <p>This is consistent with listing of these waters in the 1994 and 1996 Idaho 303(d) list.</p>
Beneficial Use(s) and Water Quality Targets	<p>Relevant beneficial uses for these segments of the Portneuf River include primary and secondary contact recreation, cold water biota, and water supply. The relevant beneficial use are listed in Table 12 of the subbasin assessment and discussed in section 2.2.2. Water quality targets for the Portneuf River TMDL are discussed in section 3.2 of the Portneuf River loading analysis and targets by stream reach are given in Table ES on p.3.</p>
Load Capacity	<p>Load analyses are provided in section 3.2.2 and annual loads are stated in Table ES on p.3 along with load reductions. Loading capacity is also addressed in the Portneuf River TMDL Addendum (Feb, 2001)</p> <p>The loading capacity for bacteria was set at the State of Idaho Water Quality Standards. By setting the load capacity at state water quality standards, the required reduction in pollutant load will be the same regardless of flow conditions.</p>

<p>Load Allocation</p>	<p>To achieve instream targets in the Portneuf River, nonpoint source load reduction targets (load allocations) for bacteria were established for mainstem Portneuf River locations.</p> <table border="1" data-bbox="456 346 1385 588"> <thead> <tr> <th>Location</th> <th>Target Load (cfu/100ml)</th> <th>Percent Reduction From Current Levels</th> </tr> </thead> <tbody> <tr> <td>Kraft Road Bridge</td> <td>50</td> <td>84%</td> </tr> <tr> <td>Pocat. Ck to Pocat. Gage</td> <td>50</td> <td>84%</td> </tr> <tr> <td>Rainey Park</td> <td>50</td> <td>84%</td> </tr> <tr> <td>Rainey Park @ Lava Hot Spgs</td> <td>50</td> <td>84%</td> </tr> <tr> <td>Pebble Ck to Chesterfield Resv.</td> <td>50</td> <td>84%</td> </tr> </tbody> </table> <p>Due to the lack of fecal coliform data from tributaries draining to the Portneuf River, no load reductions were set. Instead, the TMDL established 50 cfu/100 ml (state water quality standards) as the goal at the mouths of tributaries to the Portneuf River. These reductions apply from May 1 - September 30 (primary contact recreation time period).</p> <p>Our review has concluded that these load allocations (gross allotments) are adequate, and that further monitoring will provide data to allow the TMDL to be refined over time.</p>	Location	Target Load (cfu/100ml)	Percent Reduction From Current Levels	Kraft Road Bridge	50	84%	Pocat. Ck to Pocat. Gage	50	84%	Rainey Park	50	84%	Rainey Park @ Lava Hot Spgs	50	84%	Pebble Ck to Chesterfield Resv.	50	84%
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Pebble Ck to Chesterfield Resv.	50	84%																	
<p>Wasteload Allocations</p>	<p>Wasteload allocations were set for three (3) point sources (City of Pocatello, City of Inkom, and City of Lava Hot Springs) in the Portneuf River Drainage.</p> <p><u>Bacteria:</u> WLAs were set as follow:</p> <ul style="list-style-type: none"> • City of Pocatello.....(E.coli) 8.60 X 10¹¹ cfu/100 mL or (Fecal Coliform) 200 cfu/100 mL • City of Inkom(E.coli) 1.50 X 10¹⁰ cfu/100 mL or (Fecal Coliform) 50 cfu/100 mL • City of Lava Hot Springs.....(E.coli) 1.55 X 10¹⁰ cfu/100 mL or (Fecal Coliform) 50 cfu/100 mL <p>Our review has concluded that the wasteload allocations established for point sources on the Portneuf River are appropriate.</p>																		
<p>Margin of Safety</p>	<p>The percent reduction target (load allocations) includes a 10% margin of safety (explicit MOS) to account for uncertainty in the analysis.</p> <p>Our review has concluded that the TMDL adequately incorporates a margin of safety.</p>																		

Seasonal Variation	<p>Seasonal variation was incorporated into the TMDL primarily by establishing targets and allocations which match the seasonally applicable criteria (May through September - primary contact recreation; year around - secondary contact recreation). Critical load reductions were also derived using a seasonally low flow period.</p> <p>The TMDL adequately considers seasonal variation in loading.</p>
Critical Conditions	<p>Critical conditions of loading have been adequately considered in the TMDL primarily through derivation of load capacities under extreme low flow and high flow conditions, resulting in conservative estimates of the needed loaded reductions.</p>
Reasonable Assurance	<p>In TMDLs for which wasteload allocations are based on load allocations for which nonpoint source controls need to be implemented, there must be assurance that nonpoint source control measures will achieve the expected load reductions (USEPA, 1991). In the Portneuf River TMDL, where both point and nonpoint sources contribute to water quality problems, IDEQ indicates that nonpoint source reductions will be achieved through state authority within the Idaho Nonpoint Source Management Plans; which cover the states authorities, funding mechanisms, and interaction with other agencies to control nonpoint sources.</p> <p>Other sources of funding include Section 319 grant funding. The 319 management plans are plans developed to control nonpoint sources of pollution to waters of the state. Once the TMDL is completed, the watershed advisory group applies for 319 funding to implement measures identified in the implementation plan (developed 18 months after approval of the TMDL.)</p>
Public Participation	<p>The opportunity for public participation in development of this TMDL was extensive. Both the Upper Snake River Basin Advisory Group and the Portneuf Watershed Council participated in the development of the assessment, loading analysis, and TMDL load plan. Comments and responses are provided as an appendix to the TMDL.</p> <p>Our review has concluded that public participation and documentation requirements (40 CFR Part 25) have been satisfied.</p>

Reviewers' Recommendation/Additional Comments

Each of the required elements and assumptions of this TMDL are adequately identified and explained. The TMDL provides a clear basis to conclude that the allocations will achieve water quality standards, and that information gathered in follow-up monitoring and studies will be used to further refine the TMDL.

It is recommended that the TMDL be approved.

TMDL REVIEW

TMDL:	Portneuf River
Pollutant:	Oil and grease
Waters Addressed:	Portneuf River (HUC 1704208)
Review Completed:	April 4, 2001
Reviewers:	Curry Jones

<u>Required TMDL Elements</u>		
1. Are waters addressed by the TMDL identified and consistent with the §303(d) list:	Yes X	No <input type="checkbox"/>
2. Loading Capacity:	Yes X	No <input type="checkbox"/>
3. Load Allocations:	Yes X	No <input type="checkbox"/>
4. Wasteload Allocations:	Yes X	No <input type="checkbox"/>
5. MOS:	Yes X	No <input type="checkbox"/>
6. Seasonal Variation:	Yes X	No <input type="checkbox"/>
7. Evaluation of critical conditions:	Yes X	No <input type="checkbox"/>
8. Reasonable Assurance	Yes X	No <input type="checkbox"/>
9. Public Participation	Yes X	No <input type="checkbox"/>
Documents Reviewed:		
<ol style="list-style-type: none"> 1. Portneuf River TMDL - Waterbody Assessment and Total Maximum Daily Load. Idaho Division of Environmental Quality. March 1999. 2. IDEQ, 1999b. Overview for the Implementation of Nonpoint Source TMDLs. Final Draft. Idaho Division of Environmental Quality. August, 1999. 3. Letter From: Dave Mabe, State Water Quality Program Administrator, To: Randall Smith, Director, Office of Water, Re: Response to EPA Comments on Portneuf Subbasin (HUC 17050208), July 13, 2000. Enclosure: Response to EPA Review Comments and Addendum to the Portneuf River TMDL (July 7, 2000). 		

	Reviewers Comments
Identification of Waters	<p>Waters addressed by the TMDL are identified in sections 1 and 2 of the subbasin assessment and Section 3.1 of the TMDL (Table 41) - Portneuf river subbasin, Hydrologic Unit Code 17040208.</p> <p>This is consistent with listing of these waters in the 1994 and 1996 Idaho 303(d) list.</p>
Beneficial Use(s) and Water Quality Targets	<p>Relevant beneficial uses for these segments of the Portneuf River include primary and secondary contact recreation, cold water biota, and water supply. The relevant beneficial use are listed in Table 12 of the subbasin assessment and discussed in section 2.2.2. Water quality targets for the Portneuf River TMDL are discussed in section 3.2 of the Portneuf River loading analysis and targets by stream reach are given in Table ES on p.3.</p>
Load Capacity	<p>The State of Idaho has a narrative water quality criteria for oil and grease ((IDAPA 16.01.02(200)(01)) which states, "the waterbody should be free from hazardous materials in concentrations found to be of public significance...". The State of Idaho interprets this narrative criteria as 5 mg/l (Based on the State of Wyoming criteria of 10 mg/l. Used 5 mg/l to be conservative). Therefore based on the estimated annual flow and the 5 mg/l target, the loading capacity for oil and grease for the Portneuf River TMDL is 2,268 tons/year.</p>
Load Allocation	<p>No load allocations were necessary for oil and grease because the source of oil and grease is stormwater runoff from the cities Pocatello and Chubbuck. Therefore the load allocation for oil and grease is zero.</p>
Wasteload Allocations	<p>The current oil and grease load to the Portneuf River is 38 tons/year. This load is well below the load capacity. To ensure the problem does not get worse, the TMDL establishes an oil and grease target of 38 tons/year. Therefore, no increase above 38 tons/year oil and grease is allowed to the Portneuf River system.</p> <p>Our review has concluded that the wasteload allocations established for point sources on the Portneuf River are appropriate.</p>

<p>Margin of Safety</p>	<p>An explicit margin of safety was used in the development of the oil and grease TMDL for the Portneuf River TMDL. This explicit margin of safety was accounted for in the selection of the appropriate numeric standard. Because the TMDL used the Wyoming Quality oil and grease criteria of 10 mg/l, a 50% margin of safety was used to account for the lack of data on the effects of oil and grease on beneficial uses. Thus the water quality criteria used for the TMDL was 5 mg/l.</p> <p>Our review has concluded that the TMDL adequately incorporates a margin of safety.</p>
<p>Seasonal Variation and Critical Conditions</p>	<p>Seasonal variation was incorporated into the TMDL primarily by establishing targets and allocations which match the seasonally applicable criteria. For oil and grease, because a seasonal pattern for oil and grease loading can not be established due to the limited data, the TMDL established annual loading targets for the Portneuf River.</p>
<p>Reasonable Assurance</p>	<p>In TMDLs for which wasteload allocations are based on load allocations for which nonpoint source controls need to be implemented, there must be assurance that nonpoint source control measures will achieve the expected load reductions (USEPA, 1991). In the Portneuf River TMDL, where both point and nonpoint sources contribute to water quality problems, IDEQ indicates that nonpoint source reductions will be achieved through state authority within the Idaho Nonpoint Source Management Plans; which cover the states authorities, funding mechanisms, and interaction with other agencies to control nonpoint sources.</p> <p>Other sources of funding include Section 319 grant funding. The 319 management plans are plans developed to control nonpoint sources of pollution to waters of the state. Once the TMDL is completed, the watershed advisory group applies for 319 funding to implement measures identified in the implementation plan (developed 18 months after approval of the TMDL.)</p>
<p>Public Participation</p>	<p>The opportunity for public participation in development of this TMDL was extensive. Both the Upper Snake River Basin Advisory Group and the Portneuf Watershed Council participated in the development of the assessment, loading analysis, and TMDL load plan. Comments and responses are provided in the TMDL addendum.</p> <p>Our review has concluded that public participation and documentation requirements (40 CFR Part 25) have been satisfied.</p>

Reviewers' Recommendation/Additional Comments

Each of the required elements and assumptions of this TMDL are adequately identified and explained. The TMDL provides a clear basis to conclude that the allocations will achieve water quality standards, and that information gathered in follow-up monitoring and studies will be used to further refine the TMDL.

Stormwater: The Final TMDL submittal for the Portneuf River allocates a suspend sediment load to the Pocatello-Chubbuck municipal separate storm sewer system (referred to as "the city") in the form of a load allocation (LA) rather than a wasteload allocation (WLA). Because the city's municipal separate storm sewer discharges to the Portneuf River via discernable, confined, and discrete conveyances, the city's discharge is classified as a "point source" discharge (See "point source" definitions at 33 USC 1362(14) and 40 CFR 122.2). In relevant part, 40 CFR 122.6(b)(8) defines "municipal separate storm sewer system" as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) ... operated by a State, city [or] town [and] designed or used for collecting or conveying storm water." The city's municipal separate sewer "outfalls" (40 CFR 122.26(b)(9)) are thus "point sources." Based on the fact that the city's discharge:

- is considered a point source discharge
- is contributing to a water quality standards violations in the Portneuf River

the city's municipal separate storm sewer received a wasteload allocation for oil and grease. Implementation of the stormwater wasteload allocation will occur as a part of the NPDES permitting process.

Based on the above elements, it is recommended that the TMDL be approved.

TMDL REVIEW CHECKLIST

TMDL:	Portneuf River TMDL
Reviewer(s):	Curry Jones
Date of Review:	April 4, 2001
Pollutant:	Suspended Sediment
Type of TMDL:	Point/Nonpoint Source

Elements of a TMDL	
HQ recently distributed a "check list" of the essential elements of a TMDL. The first step is to determine if the following elements are included in the TMDL. If they are not, the TMDL cannot be approved.	
1. Are all waters addressed by the TMDL identified and consistent with the §303(d) list	Yes X No <input type="checkbox"/>
2. Loading Capacity	Yes X No <input type="checkbox"/>
3. Allocations: Load Allocation:	Yes X No <input type="checkbox"/>
4. Allocations: Wasteload Allocation:	Yes X No <input type="checkbox"/>
5. MOS	Yes X No <input type="checkbox"/>
6. Seasonal Variation	Yes X No <input type="checkbox"/>
7. Evaluation of critical conditions:	Yes X No <input type="checkbox"/>
8. Reasonable Assurance	Yes X No <input type="checkbox"/>
9. Public Participation	Yes X No <input type="checkbox"/>
Reviewers Comments	
Identification of Waters	Waters addressed by the TMDL are identified in sections 1 and 2 of the subbasin assessment and Section 3.1 of the TMDL (Table 41) - Portneuf river subbasin, Hydrologic Unit Code 17040208. This is consistent with listing of these waters in the 1994 and 1996 Idaho 303(d) list.

Beneficial Use(s) and Water Quality Targets

Beneficial Use: Relevant beneficial uses for these segments of the Portneuf River include primary and secondary contact recreation, cold water biota, and water supply. The relevant beneficial use are listed in Table 12 of the subbasin assessment and discussed in section 2.2.2. Water quality targets for the Portneuf River TMDL are discussed in section 3.2 of the Portneuf River loading analysis and targets by stream reach are given in Table ES on p.3.

Water Quality Targets: The Idaho water quality standards include a narrative standards for sediment and no numeric criteria for suspended sediment. No turbidity data was available. Current data show that suspended sediment is impairing the use, therefore the TMDL focuses on controlling suspended sediment. The TMDL set a high flow target of 80 mg/l (14-day mean) and low flow target of 50 mg/l (28-day mean).

The selected target is consistent with the European Inland Fisheries Advisory Committee and Newcombe and Jensen to set suspended sediment targets. Based on the results of these studies (page 108 -109), IDEQ has decided to use two suspended sediment targets for all streams in the Portneuf River subbasin. These two targets ensure that a good to moderate fisheries is maintained (page 108) and that beneficial use is protected during the critical time period. Because naturally higher sediment loads occur during spring runoff, an adjustment or a higher target (80 mg/l) was used. During the low flows, the target is dropped to 50 mg/l to further enhance and protect fisheries.

Because no data was available to quantify bedload conditions in the Portneuf River subbasin, no bedload targets were set. To address this issue, IDEQ has incorporated a depth fines target of less than 6.25 mm not to exceed a 5-year mean of 10% by volume in all streams have been set.

We conclude that the targets are appropriate for the sediment TMDL.

<p>Loading Capacity</p>	<p>EPA regulations define loading capacity as the greatest amount of loading that a water can receive without violating water quality standards [40 CFR §130.2(f)]. The loadings are required to be expressed as either mass-per-time, toxicity or other appropriate measure [40 CFR § 130.2(i)]. Load capacity was provided in Table ES on p.3 and Table 52 on page 109 along with load reductions. The method used to develop the target average annual loads (loading capacity) for suspended sediment was completed by multiplying the appropriate target concentration by the average flow per month by the number of days per month by a conversion factor (page 109). This then translates the target suspended sediment load into a ton/year loading target (Loading capacity is also addressed in the Portneuf River TMDL addendum (July 7, 2000).</p> <p>Pocatello USGS surface Station.....19, 263 tons/yr Marsh Creek..... 5,372 tons/yr Topaz.....11,961 tons/yr</p> <p>We conclude that the targets are appropriate for the sediment TMDL.</p>
<p>Load Allocation</p>	<p>The Portneuf River TMDL incorporates measures other than “<i>daily loads</i>” to fulfill requirements of Section 303(d). “<i>Other appropriate measures</i>” (or surrogates) as provided under EPA regulations [40 CFR 130.2(i)], were used for suspended sediment. The Portneuf River TMDL establishes in-river sediment reduction targets “<i>percent reduction targets</i>” at which are set to ensure compliance with the TMDL targets of 50 mg/l (low flow not to exceed a 14 day average) and 80 mg/l (high flow not to exceed a 28 day average).</p> <p>Pocatello USGS Surface Water Station..... 65% reduction (Table 47) Marsh Creek Surface Water Station.....67% reduction (Table 48) Topaz Surface Water Station.....53% reduction (Table 49)</p> <p>The percent reduction targets are identified on Page 109, Table 52. More detailed reductions for each surface water station is located in Table 47 - 49, page 113. Although no load reductions were developed for the tributaries due to the lack of data, the 50 mg/l and 80 mg/l targets will apply to all tributaries.</p> <p>Our review has concluded that these load allocations (gross allotments) are adequate, and that further monitoring will provide data to allow the TMDL to be refined over time.</p>

<p>Wasteload Allocation</p>	<p>The TMDL indicates that the current discharge levels of the three sewage treatment plants do not exceed the recommended target for the Portneuf River, thus no reductions in total suspended sediment is required. The TMDL does include effluent limits for each of the three sewage treatment plants and Batiste Springs Trout Farm. Although the Pocatello-Cubuck Stormwater is a source of suspended sediment to the Portneuf River, data was not available to fully characterize the true impacts to water quality. Therefore, the Pocatello-Cubuck Stormwater will be required to meet the instream targets of 50 mg/l - 14 day average and 80 mg/l - 28 day average.</p> <p>Wasteload allocations are identified in Portneuf TMDL Addendum (Feb 2001). Wasteload allocations were set for five point sources (City of Pocatello, City of Inkom, City of Lava Hot Springs, FMC Industrial Waste Water ditch, Batise Spring Trout Farm) in the Portneuf River Drainage.</p> <p><u>Sediment:</u></p> <p>WLAs were set as follow:</p> <p>City of Pocatello(45 mg/l - 7 day average) (30 mg/l - 30 day average) Pocatello-Chubuck Stormwater...(50 mg/l - 14 day average) (80 mg/l - 28 day average) FMC Industrial Waste Water ditch (10 mg/l - 30 day average) City of Inkom.....(52 mg/l - 30 day average) City of Lava Hot Springs.....(45 mg/l - 7 day average) (30 mg/l - 30 day average) Batiste Springs Trout Farm.....(5 mg/l - Average,15 mg/l Maximum)</p> <p>Our review has concluded that the wasteload allocations established for point sources on the Portneuf River are appropriate.</p>
<p>Margin of Safety</p>	<p>The TMDL uses an implicit margin of safety in analysis. The conservative assumptions used in the TMDL were:</p> <ul style="list-style-type: none"> • The TMDL uses suspended sediment targets that are well within the range of suspended sediment concentration necessary to maintain a good fisheries. • The TMDL uses the average suspended sediment load from 1955 to 1995. These average annual loads represented the 69th, 67th, and 68th percentile of all loads estimated during the time period at the Pocatello, Marsh Creek, and Topaz surface-water stations. These average annual loads were in the upper 30% of all the estimated loads. <p>Our review has concluded that the TMDL adequately incorporates a margin of safety.</p>

Seasonal Variation	<p>Seasonal variation was incorporated into the TMDL primarily by establishing targets and allocations which match the seasonally applicable criteria (80 mg/l target during the high flow period and 50 mg/l during the low flow period). Critical load reductions were also derived using a seasonally low flow period.</p> <p>The TMDL adequately considers seasonal variation in loading.</p>
Critical Conditions	<p>Critical conditions of sediment loading have been adequately considered in the TMDL primarily through derivation of targets for both low flow and high flow conditions, resulting in conservative estimates of the needed loaded reductions.</p>
Reasonable Assurance	<p>In TMDLs for which wasteload allocations are based on load allocations for which nonpoint source controls need to be implemented, there must be assurance that nonpoint source control measures will achieve the expected load reductions (USEPA, 1991). In the Portneuf River TMDL, where both point and nonpoint sources contribute to water quality problems, IDEQ indicates that nonpoint source reductions will be achieved through state authority within the Idaho Nonpoint Source Management Plans; which cover the states authorities, funding mechanisms, and interaction with other agencies to control nonpoint sources.</p> <p>Other sources of funding include Section 319 grant funding. The 319 management plans are plans developed to control nonpoint sources of pollution to waters of the state. Once the TMDL is completed, the watershed advisory group applies for 319 funding to implement measures identified in the implementation plan (developed 18 months after approval of the TMDL.)</p>
Public Participation	<p>The opportunity for public participation in development of this TMDL was extensive. Both the Upper Snake River Basin Advisory Group and the Portneuf Watershed Council participated in the development of the assessment, loading analysis, and TMDL load plan. Comments and responses are provided as an appendix to the TMDL.</p> <p>Our review has concluded that public participation and documentation requirements (40 CFR Part 25) have been satisfied.</p>

Reviewers Recommendation/Additional Comments

Each of the required elements and assumptions of this TMDL are adequately identified and explained. The TMDL provides a clear basis to conclude that the allocations will achieve water quality standards, and that information gathered in follow-up monitoring and studies will be used to further refine the TMDL.

Stormwater: The Final TMDL submittal for the Portneuf River allocates a suspended sediment load to the Pocatello-Chubbuck municipal separate storm sewer system (referred to as "the city") in the form of a load allocation (LA) rather than a wasteload allocation (WLA). Because the city's municipal separate storm sewer discharges to the Portneuf River via discernable, confined, and discrete conveyances, the city's discharge is classified as a "point source" discharge (*See* "point source" definitions at 33 USC 1362(14) and 40 CFR 122.2). In relevant part, 40 CFR 122.6(b)(8) defines "municipal separate storm sewer system" as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) ... operated by a State, city [or] town [and] designed or used for collecting or conveying storm water." The city's municipal separate sewer "outfalls" (40 CFR 122.26(b)(9)) are thus "point sources." Based on the fact that the city's discharge:

- is considered a point source discharge
- is contributing to water quality standards violations in the Portneuf River

the city's municipal separate storm sewer received a wasteload allocation for suspended sediment and oil and grease. Implementation of the stormwater wasteload allocation will occur as a part of the NPDES permitting process.

Based on the above information, it is recommended that the TMDL be approved.

TMDL REVIEW CHECKLIST

TMDL:	Portneuf River TMDL
Reviewer	Curry Jones
Date of Review:	April 4, 2001
Pollutant:	Nutrients
Type of TMDL:	Point/Non-Point Source

Elements of a TMDL

HQ recently distributed a "check list" of the essential elements of a TMDL. The first step is to determine if the following elements are included in the TMDL. If they are not, the TMDL cannot be approved.

- | | | |
|---|-------|-----------------------------|
| 1. Are all waters addressed by the TMDL identified and consistent with the §303(d) list | Yes X | No <input type="checkbox"/> |
| 2. Loading Capacity | Yes X | No <input type="checkbox"/> |
| 3. Allocations: Load Allocation: | Yes X | No <input type="checkbox"/> |
| 4. Allocations: Wasteload Allocation: | Yes X | No <input type="checkbox"/> |
| 5. MOS | Yes X | No <input type="checkbox"/> |
| 6. Seasonal Variation | Yes X | No <input type="checkbox"/> |
| 7. Evaluation of critical conditions: | Yes X | No <input type="checkbox"/> |
| 8. Reasonable Assurance | Yes X | No <input type="checkbox"/> |
| 9. Public Participation | Yes X | No <input type="checkbox"/> |

Reviewers Comments

Identification of Waters	<p>Waters addressed by the TMDL are identified in sections 1 and 2 of the subbasin assessment and Section 3.1 of the TMDL (Table 41) - Portneuf river subbasin, Hydrologic Unit Code 17040208.</p> <p>This is consistent with listing of these waters in the 1994 and 1996 Idaho 303(d) list.</p>
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Beneficial Use(s) and Water Quality Targets

Beneficial Use: Relevant beneficial uses for these segments of the Portneuf River include primary and secondary contact recreation, cold water biota, and water supply. The relevant beneficial uses are listed in Table 12 of the subbasin assessment and discussed in section 2.2.2. Water quality targets for the Portneuf River TMDL are discussed in section 3.2 of the Portneuf River loading analysis and targets by stream reach are given in Table ES on p.3.

Water Quality Targets: The water quality targets for ***total phosphorus*** was set at 0.075 mg/l. This target for total phosphorus is based on EPA's "Gold Book" (0.1 mg/l) which is then reduced by a factor 25% to account for a margin of safety. The water quality targets for ***total inorganic nitrogen*** was set at 0.30 mg/l. The TIN target was chosen by first considering the State of Utah indicator of 4.0 mg/l and then consulting literature values which pointed at 0.3 mg/l. The available literature (Sawyer) indicates that nuisance aquatic plant growth occurs around the 0.3 mg/l concentration. We conclude that these water quality targets are appropriate for the nutrient TMDL.

Loading Capacity

EPA regulations define loading capacity as the greatest amount of loading that a water can receive without violating water quality standards [40 CFR §130.2(f)]. The loadings are required to be expressed as either mass-per-time, toxicity or **other appropriate measure** [40 CFR § 130.2(i)]. For the Portneuf River TMDL, the load capacity is expressed as a “target load” in tons per year calculated using the TMDL targets described above. These target loads are provided in Table ES on p.3 and Table 62 on page 131 along with load reductions. The method used to develop target loads (loading capacity) were calculated using the monthly mean flow (for the period of record available) times the target phosphorus and total inorganic nitrogen concentration times a conversion factor, which then translates the target nutrient load into a ton/year loading target (Appendix G). Loading capacity is also addressed in the Portneuf River TMDL addendum (July 7, 2000)

Total Inorganic Nitrogen

Location	Loading Capacity
Tyhee USGS Station	
Stormwater - Pocatello-Chubbuck	5.1 tons/yr
Pocatello Gage	88.0 tons/yr
Springs	80.0 tons/yr
FMC IWW ditch	1.1 tons/yr
Pocatello Sewage Treatment Plant	3.0 tons/yr
March Creek USGS Station	26.0 tons/yr
Topaz USGS Station	59.0 tons/yr

Total Phosphorus

Location	Loading Capacity
Stormwater - Pocatello-Chubbuck	1.3 tons/yr
Pocatello Gage	22 tons/yr
Springs	20 tons/yr
FMC IWW ditch	0.3 tons/yr
Pocatello Sewage Treatment Plant	0.7 tons/yr
March Creek USGS Station	6.0 tons/yr
Topaz USGS Station	15.0 tons/yr

Load Allocation

Nutrient load reductions were set at several mainstem locations on the Portneuf River.

Total Inorganic Nitrogen

Location	Percent Reduction
Tyhee USGS Station	86%
Pocatello Gage	66%
Springs	89%
March Creek USGS Station	66%
Topaz USGS Station	50%

Total Phosphorus

Location	Percent Reduction
Tyhee USGS Station	81%
Pocatello Gage	39%
Springs	88%
March Creek USGS Station	33%
Topaz USGS Station	5%

Load allocations and/or percent reduction targets for tributaries to the Portneuf River were not developed due to the lack of data. Therefore the IDEQ applies the water quality targets of 0.075 mg/l target and 0.3 mg/l target to all streams listed for nutrients. These year-round targets are to be met regardless of flow conditions. Additional monitoring is underway on these tributaries to determine (Idaho Association of Soil Conservation Districts) (Portneuf River TMDL Addendum, July 7, 2000) the source and actual amount of loading from tributaries. Applying these conservative targets to all waters listed for nutrients will ensure that the beneficial use is protected.

<p>Wasteload Allocation</p>	<p>The Portneuf River TMDL identified wasteload allocations for the City of Pocatello, FMC Corporation, and Stormwater - Pocatello and Chubbuck . The analysis used to determine the relative contribution from point sources in the Portneuf consisted of a combination of regression statistics (flow and total phosphorus and flow total inorganic nitrogen) and the mean concentration. The TMDL then uses the 95th percentile concentration in determining the nutrient concentration.</p> <p>Wasteload allocations were set for five point sources (City of Pocatello, City of Inkom, City of Lava Hot Springs, FMC Industrial Waste Water ditch, Batiste Spring Trout Farm) in the Portneuf River Drainage. WLAs were set as follow:</p> <p>City of Pocatello.....(TIN = 3 tons/yr, TP = 0.70 tons/yr) FMC Industrial Waste Water ditch. (TIN = 1.1 tons/yr, TP = 0.30 tons/yr) City of Inkom.....(TIN = 1.0 tons/yr , TP = 0.40 tons/yr) City of Lava Hot Springs.....(TIN = 0.50 tons/yr, TP = 0.20 tons/yr) Batiste Springs Trout Farm.....(TIN = 10.2 tons/yr, TP = 0.30 tons/yr) Stormwater - Pocatello-Chubbuck..(TIN = 5.1 tons/yr, TP = 1.3 tons/yr)</p>
<p>Margin of Safety</p>	<p>The Portneuf River TMDL identifies a margin of safety for both total inorganic nitrogen and total phosphorus. A 25% margin of safety was instituted for total phosphorous. An implicit MOS 0.3 mg/l margin of safety was instituted for total inorganic nitrogen.</p>
<p>Seasonal Variation</p>	<p>The TMDL identifies seasonal variation in TP and TIN through a 1973 study by Minshall and Andrews (1973). They found that both nitrogen as nitrate and phosphorus as phosphate were highest in the winter, decreased during spring runoff and declined progressively through the summer, a time of plant uptake. Phosphate concentrations showed less seasonal variation but did exhibit an increase from September through March with a subsequent decline during the growing season. Due to concern about American Falls Reservoir, it is 303(d) listed for nutrients, no allowance for seasonal variation in nutrient loading was made. Thus the targets apply year round (Portneuf River TMDL Addendum, July 7, 2000).</p>
<p>Critical Conditions</p>	<p>The TMDL identified the critical time period for nutrients in terms of affecting the beneficial uses in the Portneuf River is the summer (late July, August and early September).</p>

Reasonable Assurance	<p>In TMDLs for which wasteload allocations are based on load allocations for which nonpoint source controls need to be implemented, there must be assurance that nonpoint source control measures will achieve the expected load reductions (USEPA, 1991). In the Portneuf River TMDL, where both point and nonpoint sources contribute to water quality problems, IDEQ indicates that nonpoint source reductions will be achieved through state authority within the Idaho Nonpoint Source Management Plans; which cover the states authorities, funding mechanisms, and interaction with other agencies to control nonpoint sources.</p> <p>Other sources of funding include Section 319 grant funding. The 319 management plans are plans developed to control nonpoint sources of pollution to waters of the state. Once the TMDL is completed, the watershed advisory group applies for 319 funding to implement measures identified in the implementation plan (developed 18 months after approval of the TMDL.)</p>
Public Participation	<p>The opportunity for public participation in development of this TMDL was extensive. Both the Upper Snake River Basin Advisory Group and the Portneuf Watershed Council participated in the development of the assessment, loading analysis, and TMDL load plan. Comments and responses are provided as an appendix to the TMDL.</p> <p>Our review has concluded that public participation and documentation requirements (40 CFR Part 25) have been satisfied.</p>
<p style="text-align: center;"><u>Reviewers Recommendation/Additional Comments</u></p> <p>Each of the required elements and assumptions of this TMDL are adequately identified and explained. The TMDL provides a clear basis to conclude that the allocations will achieve water quality standards, and that information gathered in follow-up monitoring and studies will be used to further refine the TMDL.</p> <p>It is recommended that the TMDL be approved.</p>	

