

# Evaluation report & findings

Application for certification pursuant to section 401 of the Federal  
Clean Water Act

Coyote Island Terminal, LLC  
Water Quality Certification# 2012-00056

Pursuant to Oregon Administrative Rules Chapter 340, Division 48

March 2015



**Northwest Region  
Section 401 Water  
Quality Certification**  
2020 SW 4<sup>th</sup> Ave. Ste 400  
Portland, OR 97201  
Phone: (503) 229-5263  
(800) 452-4011  
Fax: (503) 229-6945

[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

DEQ is a leader in  
restoring, maintaining and  
enhancing the quality of  
Oregon's air, land and  
water.



State of Oregon  
Department of  
Environmental  
Quality

Last Updated: 03/31/2015

This report prepared by:

Oregon Department of Environmental Quality  
2020 SW 4<sup>th</sup> Ave, Suite 400  
Portland, OR 97201  
1-800-452-4011  
[www.oregon.gov/deq](http://www.oregon.gov/deq)

Contact:  
Sara Christensen  
503-229-6030

Alternative formats (Braille, large type) of this document can be made available. Contact DEQ, Portland, at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.



# Table of Contents

1. Introduction .....	5
2. Requirements for certification .....	5
3. Summary of application .....	6
3.1 Documents filed by Applicant .....	6
3.2 Legal name and address of Applicant .....	7
3.3 Description of project location .....	7
3.4 Waters of the State impacted by project .....	7
3.5 Impacted property landowners .....	7
4. Description of proposed project .....	8
5. Applicable water quality regulations and the Department of Environmental Quality evaluations .....	10
5.1 Protection of designated and existing beneficial uses .....	11
5.2 Water quality standards .....	12
5.3 Antidegradation policy .....	12
6. Potential modification of surface water .....	12
6.1 Antidegradation OAR 340-041-0004 .....	12
6.2 Statewide narrative criteria OAR 340-041-0007 .....	19
6.3 Bacteria OAR 340-041-009 .....	25
6.4 Biocriteria OAR 340-041-0011 .....	26
6.5 Dissolved oxygen OAR 340-041-0016 .....	28
6.6 Nuisance phytoplankton growth OAR 340-041-0019 .....	30
6.7 pH OAR 340-041-0021 .....	32
6.8 Temperature OAR 340-041-0028 .....	33
6.9 Total dissolved gas OAR 340-041-0031 .....	37
6.10 Total dissolved solids OAR 340-041-0032 .....	39
6.11 Toxic substances OAR 340-041-0033 .....	41
6.12 Turbidity OAR 340-041-0036 .....	42
7. Evaluation of water quality-related requirements of state law .....	44
8. Evaluation of compliance with sections 301, 302, 303, 306, and 307 of the clean water act .....	47
9. Conclusions and proposed certification decision .....	47

# 1. Introduction

The Department of Environmental Quality received 401 Water Quality Certification application materials from the Coyote Island Terminal, LLC (Coyote Island Terminal or Applicant) on April 1, 2014 for activities at the proposed Morrow Pacific Coal Export Facility (the Facility). The Department of Environmental Quality determined the in-water activities associated with the Coyote Island Terminal would result in more than a *de minimis* discharge to the Columbia River, and requested that the project obtain a 401 water quality certification to ensure compliance with state water quality standards and other applicable laws. The Department of Environmental Quality reviewed the application and requested additional information on May 8, 2014. Coyote Island Terminal provided the additional information on May 30, 2014. The Department of Environmental Quality placed the draft water quality certification and the draft version of this evaluations and findings on public notice on July 21, 2014, and held a public hearing during this time. The public notice expired on September 24, 2014. DEQ received thousands of comments. Based on these comments, the Department of Environmental Quality requested additional information from the applicant on November 26, 2014. Coyote Island Terminal provided this additional information on February 6, 2015. Those substantive comments specifically related to water quality have been incorporated into this final evaluations and findings document.

The majority of comments received pertained to the burning of coal overseas, fugitive coal dust, and the potential for coal spilling into the Columbia River. The 401 water quality certification's scope is the normal construction and operation of the facility.

The 401 WQC includes a condition prohibiting the applicant from allowing coal or coal dust from operation of the facility to enter the Columbia River. This condition is intended to prohibit all such discharges except for dust associated with the indirect and *de minimis* emissions allowed under the DEQ air containment discharge permit issued for the facility. DEQ determined that the emissions from the railcars at the facility will be negligible because the coal will not be disturbed and the coal will be loaded into the railcars before arriving at the site using techniques that will minimize emissions during transit (e.g., loading profiles and topping agents). Three separate topping agents have been proposed. Each topping agent manufacturer specifications claims to control at least 85 percent of coal dust erosion compared to coal cars without topping agents. In addition, any fine material at the surface of the railcar will most likely be emitted (e.g., eroded by wind) before the railcars arrive at the site.

The project proposes to build a facility that will receive, store, and transfer coal from trains to barges. Project components include a rail unloading shed, storage barns, conveyors, and a barge loading dock.

The record generated in the process of reviewing the application, supplemental information submitted by the applicant, and materials received as part of the public review process, are considered part of the record regarding this application.

## 2. Requirements for certification

Section 401 of the Clean Water Act establishes requirements for state certification of proposed projects or activities that may result in any discharge to navigable waters. Before a federal agency may issue a permit or license for any project that may result in any discharge to navigable waters, the state must certify that the proposed project or activity will comply with applicable effluent limitations, water

quality-related effluent limitations, water quality standards and implementation plans, national standards of performance for new sources, and toxic and pretreatment effluent standards (Sections 301, 302, 303, 306, and 307, respectively, of the Clean Water Act) and any state regulations adopted to implement these sections. The state is further authorized to condition any granted certificate to require compliance with appropriate water quality-related requirements of state law.

Under the federal Clean Water Act, states have primary responsibility and authority for protecting water quality. The Clean Water Act defers to state requirements for protection of water quality as long as they are not less stringent than established federal minimums; consequently, federally approved state requirements and standards become federal requirements and standards. The U.S. Environmental Protection Agency can intervene only if the state refuses to act or if state requirements do not meet federally prescribed minimums.

In the Section 401 Water Quality Certification process, the state acts under the authority of the federal law but must also comply with state law. In Oregon, statutory authority for Section 401 Water Quality Certification is contained in ORS chapter 468B. The Department of Environmental Quality is the agency of the State of Oregon designated to carry out the certification functions prescribed by Section 401 of the Clean Water Act. The Department of Environmental Quality may issue an unconditional Water Quality Certification where a project will not impact water quality. A conditioned Water Quality Certification may be issued where a project may impact water quality, but the state is reasonably assured that implementation of the conditions contained in the Water Quality Certification will result in compliance with standards and other applicable requirements of state law. Where a project cannot be undertaken in accordance with water quality standards, Water Quality Certification is denied.

Administrative rules (OAR chapter 340 Division 48) prescribe the Department of Environmental Quality's procedures for issuing Section 401 Water Quality Certifications. A complete application for Section 401 Water Quality Certification includes, at a minimum, general information about the project, as well as specific and substantive information necessary to demonstrate that the proposed project or activity will comply with water quality requirements (OAR 340-048-0020(2)). The Department of Environmental Quality may also request any additional information necessary to adequately evaluate the project impacts on water quality (OAR 340-048-0020(3)).

## **3. Summary of application**

### **3.1 Documents filed by Applicant**

The following documents, filed by the Applicant, are considered to comprise the application for 401 certification of the project and have become part of the Department of Environmental Quality record:

- Section 401 Clean Water Act Application and Attachments, prepared by Anderson Perry & Associates, LLC, submitted April 1, 2014, including US Army Corps of Engineers/Department of State Lands Joint Permit Application (signed January 2012), the Biological Assessment (dated August 2013), the Environmental Review (dated August 2012), copies of acquired the Department of Environmental Quality Air permit, the WPCF permit, the 1200-C permit, the signed Land Use Compatibility Statement (signed by the Morrow County Planning Director

- January, 2012) and a preliminary bioswale layout, (the "Application")
- A Project Memorandum prepared by Northern Resource Consulting on Pre-project Dredge Material Evaluation for Grain Size for the Port of Morrow (referring to another nearby project)
- Applicant response to comments dated May 30, 2014.
- Copies of monitoring well installation reports to show typical substrates in general area
- Draft Stormwater Management Plan (June 2014)
- Draft Mitigation Plan (June 2014)
- Final Mitigation Plan (August 2014)
- Assessment of Impacts to Fishes of the Columbia River from the Coyote Island Terminal Dock at the Port of Morrow (dated April 2014; received February 2015)
- Final Stormwater Management Plan (February 2015)
- Applicant response to comments dated February 6, 2015

In addition, the Department of Environmental Quality also evaluated and considered verbal and e-mail communications within the Department of Environmental Quality and with US Army Corps of Engineers, the National Marine Fisheries Service, the Department of State Lands, and staff of Anderson Perry & Associates.

## **3.2 Legal name and address of Applicant**

Coyote Island Terminal, LLC  
Clark Moseley, President and CEO  
1211 SW 5<sup>th</sup> Ave., Suite 700  
Portland, OR 97204

## **3.3 Description of project location**

The project is located in the Port of Morrow Complex on Lewis and Clark Drive, in Boardman, Morrow County, Oregon (Section 2, Township 4 North, Range 25 East) (the "Site"). The Facility itself will be located in and adjacent to the Columbia River, at River Mile 271.

The Site is approximately 41 acres. 17.79 acres of the site will be converted to impervious surfaces through facilities, parking areas, and associated infrastructure.

## **3.4 Waters of the State impacted by project**

Waters of the state impacts by the proposed terminal include the Columbia River. There will be approximately 572 cubic yards of permanent impact due to pile placement, and an additional 256.5 cubic yards of temporary impact. 160 piles will be installed below Ordinary High Water Elevation for construction of the project. Stormwater will be retained on site through infiltration and evapotranspiration in three bioswales.

## **3.5 Impacted property landowners**

Adjacent properties are owned by the Port of Morrow.

## 4. Description of proposed project

The purpose of the project is to build a facility that will receive, store, and transfer coal from trains to barges. The proposed facility will accept trains arriving on existing rail lines where coal will be offloaded into an enclosed rotary railcar unloading building via an electronic powered positioning system. Coal will be unloaded to below-ground hoppers to an enclosed conveyor system where it will be transported either directly to a barge, or to one of three storage buildings. Coal entering a storage building will be dropped from an overhead conveyor into a pile in the center of the building. Coal to be loaded into barges will be pulled off the pile by a storage reclaimed conveyor where it will then be transferred to a loadout conveyor, which will pass the material through two transfer towers with conveyance transfers, and onto the barge loading conveyor. Barges will be loaded with a retractable loading chute below deck, minimizing dust emissions.

The Department of Environmental Quality's 401 program reviews any potential impacts to water quality due to the construction and operation of the facility. This includes in-water work, as well as upland work. The Department of Environmental Quality reviews a post construction stormwater management plan (stormwater management plan) developed by the Applicant and submitted as part of its application. To be approvable by the Department of Environmental Quality, the stormwater management plan must ensure that any stormwater runoff from new and existing impervious surfaces is treated for the life of the facility.

Elements of the proposed work reviewed for this 401 water quality certification include:

**In-Water Work:** A total of 194 new piles will be installed as part of this project to support six breasting dolphins, two mooring dolphins, and for the construction of a walkway, conveyor, and dock structure. Of these, 160 will be installed below the ordinary high water elevation. Temporary template piles will be installed prior to final placement of permanent piles, resulting in temporary impacts. Piles will be installed via vibratory hammer and impact hammer.

Project elements include:

*Elevated Fixed Dock:* The dock will be 6 feet wide by 275.5 feet long, grated, and supported by four bents. Each bent will have two 16-inch diameter round steel piles installed to approximately 35 feet below the river bottom.

*Conveyor:* The elevated conveyor will be 30 feet wide by 270 feet long, and supported by three reinforced concrete capped support bents. One bent will be entirely above the ordinary high water elevation and will have thirty-two 16-inch diameter steel round piles installed to 35 feet. The other two bents will each consist of 10 24-inch diameter steel round piles installed to 35 feet.

*Elevated Fixed Walkway:* The walkway will be four feet wide by 1,160 feet long, and will be supported by 30 support bents. Each bent will consist of two 14-inch diameter steel round piles installed to 25 feet. The surface of the walkway will consist of grated expanded metal decking.

*Mooring Dolphins:* Two mooring dolphins will be installed, each consisting of six 16-inch diameter battered steel piles.

*Breasting Dolphins:* Seven breasting dolphins will be installed. Six dolphins will consist of six

16-inch diameter battered steel piles and one will consist of five 16-inch battered steel piles. Three 18-inch high density polyethylene fender piles will also be installed for each dolphin.

The total number of piles as well as total area amount of fill below Ordinary high water elevation due to the construction of the dock, conveyor, walkway, and dolphins, is below.

Structure	Number of piles below ordinary high water elevation	Number of piles above ordinary high water elevation	Temporary Fill Below ordinary high water elevation (cubic yards)	Permanent Fill Below ordinary high water elevation (cubic yards)	Total Impact Below ordinary high water elevation (square feet)
Fixed Dock	6	2	37.5	144	71
Conveyor	20	32			
Fixed Walkway	60		137	142	66
Mooring Dolphin	12		82	286	112
Breasting Dolphin	41				
Dolphin Face	21				
<b>Total</b>	<b>160</b>	<b>34</b>	<b>265.5</b>	<b>572</b>	<b>249</b>

The majority of work will be done in-water from three floating barges. One barge will contain a mounted crane and pile driving equipment. The two other barges will contain supplies, including cleanup kits and floating booms.

**Upland Work:** Several structures are proposed to be constructed upland as part of the overall facility, increasing impervious surfaces.

*Rail unloading Shed:* Trains will pull into this facility and dump coal via a rotary rail dumper with a bottom-fed hopper and underground conveyor system. The total area of impervious surface due to this building will be 0.22 acre.

*Coal Storage Buildings and conveyors:* Initially, only one storage building will be constructed. Two more building are proposed to be constructed subsequently. The initial building is approximately 225,000 square feet, and the other two are 214,800 square feet each. There will be a total of 15 acres of impervious surface due to the three storage buildings.

*Office/Shop:* This building will house administrative staff, and provide a break area and changing room. This building will be approximately 0.07 acre.

*Additional Ground Disturbance:* Parking facilities, sidewalks, and other infrastructure will be approximately 2.5 acres of impervious surface.

#### 4.1 Post construction stormwater management

The Applicant has received a 1200-C National Pollutant Discharge Elimination System general permit from the Department of Environmental Quality for stormwater discharges associated with the construction of the facility. The Department of Environmental Quality's 401 Water Quality Certification

program requires applicants also provide a post construction stormwater management plan for the Department of Environmental Quality's review and approval. The post construction stormwater management plan ensures that stormwater will be treated for the life of the facility. The Department of Environmental Quality has received a final stormwater management plan from the Applicant. This Evaluation Report and Findings are based on application materials provided to the Department of Environmental Quality. If there are any modifications to the project or application materials, the Department of Environmental Quality will modify the 401 Water Quality Certification and this draft Evaluation Report and Findings, as appropriate.

The project will result in approximately 17.79 acres of new impervious surface. The Applicant has proposed bioswales to treat stormwater runoff from the site. Stormwater discharge from the administration building, operations building, and parking areas will flow through oil-water separators equipped catch basins prior to discharging to bioswales. Stormwater from the coal storage basins will discharge directly to the bioswales. The bioswales are designed to capture and treat the 25-year storm event of 2.05 inches; Boardman receives approximately 9 inches of rain per year. Although the project will increase the acres of impervious surface, the stormwater facilities are being designed so that there is no stormwater discharge from the site. A berm (containing a roadway and railroad) sits between the bioswales and the Columbia River, so even if an overflow from the bioswales occurred, the berms would prevent stormwater from entering the Columbia River.

The bioswales will be constructed by excavating native soils and installing a rock/gravel base covered with 12 inches of amended soils to provide proper water quality treatment. Native grasses and vegetation will be planted in the bioswales to provide additional treatment. The Coyote Island Terminal will be responsible for the operations and maintenance of the bioswales which will include:

- Weekly bioswale visual inspection.
- Monthly inspection and maintenance of the vegetation to ensure it remains alive and functional.
- Bi-monthly inspection of the bioswales to ensure they operate as designed, do not become plugged or blocked, etc.
- Bi-monthly maintenance of stormwater conveyance features to ensure the stormwater is properly routed to the bioswales.
- Bi-annual cleaning of all site catch basins.
- Bi-annual weeding to keep invasive species in control.
- At least each fall and spring, the bioswales shall be thoroughly cleaned of debris.
- Maintenance must be provided by facility employees or others as required.
- The Coyote Island Terminal maintenance personnel must be formally trained to maintain the stormwater system and must be provided with the equipment necessary to ensure full compliance with all applicable rules and regulations

## **5. Applicable water quality regulations and the Department**

# of Environmental Quality evaluations

Oregon’s water quality regulations are in Oregon Administrative Rules (OAR) Chapter 340, Divisions 40 through 56 and 71. Division 40 contains the state’s groundwater standards. Division 41 entitled “Water Quality Standards: Beneficial Uses, Policies, and Criteria for Oregon” contains the surface water standards, and is the most relevant with respect to Section 401 certification evaluation of a proposed project. The requirements and standards set forth in Division 41 were adopted to comply with the surface water quality protection provisions of both state and federal law. The water quality standards in Division 41 are composed of three elements: beneficial uses, water quality criteria (both narrative and numeric), and the antidegradation policy.

## 5.1 Protection of designated and existing beneficial uses

Both Oregon Law and the federal Clean Water Act require that water quality be protected and maintained so that beneficial uses of public waters are not impaired or precluded by degraded water quality. The regulatory approach used is to:

1. Identify beneficial uses that are recognized as significant with regard to water quality protection;
2. Develop and adopt standards of quality for significant water quality parameters to define the quality that is necessary to protect the identified beneficial uses;
3. Establish and enforce case-by-case discharge limitations for each source that is permitted to discharge treated wastes into public waters to assure that water quality standards are not violated and beneficial uses are not impaired; and
4. Establish and implement "best management practices" for a variety of "land management" activities to minimize their contribution to water quality standards violations or impairment of beneficial uses.

The table below indicates the designated beneficial uses for the Columbia River in reaches subject to the proposed project (Main Stem Columbia Basin, OAR 340-41-0101);

<b>Table 1: Beneficial Uses for the Columbia River – RM 86 to 309</b>
Public Domestic Water Supply
Private Domestic Water Supply
Industrial Water Supply

Irrigation
Livestock Watering
Anadromous Fish Passage
Salmonid Fish Rearing
Salmonid Fish Spawning
Resident Fish and Aquatic Life
Wildlife and Hunting
Boating
Fishing
Water Contact Recreation
Aesthetic Quality
Hydropower
Commercial Navigation & Transportation

## 5.2 Water quality standards

Water quality standards are developed for varying geographic areas to protect beneficial uses. Generally, if a water quality standard fully protects the most sensitive beneficial use, then all beneficial uses are fully protected. Water quality standards have been adopted for water quality parameters that are most significant or useful in regulating pollution. These standards take the form of both numeric limits and narrative criteria and have been established based on best available information at the time they were adopted. Development of standards is a continuing process. As new information becomes available, standards for additional parameters may be added and existing numeric standards or narrative criteria may be revised to better reflect the intent of protection of the identified beneficial uses.

## 5.3 Antidegradation policy

Oregon's antidegradation policy (OAR 340-41-0004) applies to all surface waters. In the case of bodies of water that meet water quality standards, it provides for the maintenance of existing water quality. Specifically, it states that the existing quality of high quality waters (i.e., waters meeting water quality standards) shall be maintained and protected unless the Environmental Quality Commission makes certain rigorous findings of need. For water quality-limited waters, water quality may in no circumstances be lowered; that is, these waters have a non-degradation status.

# 6. Potential modification of surface water

## 6.1 Antidegradation OAR 340-041-0004

## Evaluations and Findings Report - Coyote Island Terminal

(1) Purpose. The purpose of the Antidegradation Policy is to guide decisions that affect water quality such that unnecessary further degradation from new or increased point and nonpoint sources of pollution is prevented, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses. The standards and policies set forth in OAR 340-041-0007 through 340-041-0350 are intended to supplement the Antidegradation Policy.

(2) Growth Policy. In order to maintain the quality of waters in the State of Oregon, it is the general policy of the Commission to require that growth and development be accommodated by increased efficiency and effectiveness of waste treatment and control such that measurable future discharged waste loads from existing sources do not exceed presently allowed discharged loads except as provided in section (3) through (9) of this rule.

(3) Non-degradation Discharges. The following new or increased discharges are subject to this Division. However, because they are not considered degradation of water quality, they are not required to undergo an antidegradation review under this rule:

(a) Discharges Into Existing Mixing Zones. Pollutants discharged into the portion of a water body that has been included in a previous mixing zone for a permitted source, including the zones of initial dilution, are not considered a reduction in water quality, so long as the mixing zone is established in accordance with OAR 340-041-0053, there are no other overlapping mixing zones from other point sources, and the discharger complies with all effluent limits set out in its NPDES permit.

(b) Water Conservation Activities. An increase in a pollutant concentration is not considered a reduction in water quality so long as the increase occurs as the result of a water conservation activity, the total mass load of the pollutant is not increased, and the concentration increase has no adverse effect on either beneficial uses or threatened or endangered species in the water body.

(c) Temperature. Insignificant temperature increases authorized under OAR 340-041-0028(11) and (12) are not considered a reduction in water quality.

(d) Dissolved Oxygen. Up to a 0.1 mg/l decrease in dissolved oxygen from the upstream end of a stream reach to the downstream end of the reach is not considered a reduction in water quality so long as it has no adverse effects on threatened and endangered species.

(4) Recurring Activities. Since the baseline for applying the antidegradation policy to an individual source is the water quality resulting from the source's currently authorized discharge, and since regularly-scheduled, recurring activities remain subject to water quality standards and the terms and conditions in any applicable federal and state permits, certifications and licenses, the following activities will not be considered new or increasing discharges and will therefore not trigger an antidegradation review under this rule so long as they do not increase in frequency, intensity, duration or geographical extent:

(a) Rotating grazing pastures,

(b) Agricultural crop rotations, and

(c) Maintenance dredging.

(5) Exemptions to the Antidegradation Requirement. Some activities may, on a short term basis, cause temporary water quality degradation. However, these same activities may also have substantial and desirable environmental benefits. The following activities and situations fall into this category. Such activities and situations remain subject to water quality standards, and must demonstrate that they have minimized adverse effects to threatened and endangered species in order to be exempt from the antidegradation review under this rule:

(a) Riparian Restoration Activities. Activities that are intended to restore the geomorphology or riparian vegetation of a water body, or control invasive species need not undergo an antidegradation review so long as the Department determines that there is a net ecological benefit to the restoration activity. Reasonable measures that are consistent with

## Evaluations and Findings Report - Coyote Island Terminal

the restoration objectives for the water body must be used to minimize the degradation;

(b) Emergency Situations. The Director or a designee may, for a period of time no greater than 6 months, allow lower water quality without an antidegradation review under this rule in order to respond to public health and welfare emergencies (for example, a significant threat of loss of life, personal injury or severe property damage); and

(c) Exceptions. Exceptions authorized by the Commission or Department under (9) of this rule.

(6) High Quality Waters Policy: Where the existing water quality meets or exceeds those levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, and other designated beneficial uses, that level of water quality must be maintained and protected. However, the EQC, after full satisfaction of the intergovernmental coordination and public participation provisions of the continuing planning process, and with full consideration of sections (2) and (9) of this rule, and 340-041-0007(4), may allow a lowering of water quality in these high quality waters if it finds:

(a) No other reasonable alternatives exist except to lower water quality; and

(b) The action is necessary and benefits of the lowered water quality outweigh the environmental costs of the reduced water quality. This evaluation will be conducted in accordance with the DEQ "Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and section 401 water quality certifications," pages 27, and 33-39 (March 2001) incorporated herein by reference;

(c) All water quality standards will be met and beneficial uses protected; and

(d) Federal threatened and endangered aquatic species will not be adversely affected.

(7) Water Quality Limited Waters Policy: Water quality limited waters may not be further degraded except in accordance with section (9)(a)(B), (C) and (D) of this rule.

(8) Outstanding Resource Waters Policy. Where existing high quality waters constitute an outstanding State or national resource such as those waters designated as extraordinary resource waters, or as critical habitat areas, the existing water quality and water quality values must be maintained and protected, and classified as "Outstanding Resource Waters of Oregon."

(a) The Commission may specially designate high quality water bodies to be classified as Outstanding Resource Waters in order to protect the water quality parameters that affect ecological integrity of critical habitat or special water quality values that are vital to the unique character of those water bodies. The Department will develop a screening process and establish a list of nominated water bodies for Outstanding Resource Waters designation in the Biennial Water Quality Status Assessment Report (305(b) Report). The priority water bodies for nomination include:

(A) Those in State and National Parks;

(B) National Wild and Scenic Rivers;

(C) State Scenic Waterways;

(D) Those in State and National Wildlife Refuges; and

(E) Those in federally designated wilderness areas.

(b) The Department will bring to the Commission a list of water bodies that are proposed for designation as Outstanding Resource Waters at the time of each triennial Water Quality Standards Review; and

(c) When designating Outstanding Resource Waters, the Commission may establish the water quality values to be protected and provide a process for determining what activities are allowed that would not affect the outstanding

## Evaluations and Findings Report - Coyote Island Terminal

resource values. After the designation, the Commission may not allow activities that may lower water quality below the level established except on a short term basis to respond to public health and welfare emergencies, or to obtain long-term water quality improvements.

(9) Exceptions. The Commission or Department may grant exceptions to this rule so long as the following procedures are met:

(a) In allowing new or increased discharged loads, the Commission or Department must make the following findings:

(A) The new or increased discharged load will not cause water quality standards to be violated;

(B) The action is necessary and benefits of the lowered water quality outweigh the environmental costs of the reduced water quality. This evaluation will be conducted in accordance with DEQ's "Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and section 401 water quality certifications," pages 27, and 33-39 (March 2001) incorporated herein by reference; and

(C) The new or increased discharged load will not unacceptably threaten or impair any recognized beneficial uses or adversely affect threatened or endangered species. In making this determination, the Commission or Department may rely upon the presumption that if the numeric criteria established to protect specific uses are met the beneficial uses they were designed to protect are protected. In making this determination the Commission or Department may also evaluate other State and federal agency data that would provide information on potential impacts to beneficial uses for which the numeric criteria have not been set;

(D) The new or increased discharged load may not be granted if the receiving stream is classified as being water quality limited under sub-section (a) of the definition of "Water Quality Limited" in OAR 340-041-0002, unless:

(i) The pollutant parameters associated with the proposed discharge are unrelated either directly or indirectly to the parameter(s) causing the receiving stream to violate water quality standards and being designated water quality limited; or

(ii) Total maximum daily loads (TMDLs), waste load allocations (WLAs) load allocations (LAs), and the reserve capacity have been established for the water quality limited receiving stream; and compliance plans under which enforcement action can be taken have been established; and there will be sufficient reserve capacity to assimilate the increased load under the established TMDL at the time of discharge; or

(iii) Effective July 1, 1996, in water bodies designated water-quality limited for dissolved oxygen, when establishing WLAs under a TMDL for water bodies meeting the conditions defined in this rule, the Department may at its discretion provide an allowance for WLAs calculated to result in no measurable reduction of dissolved oxygen (DO). For this purpose, "no measurable reduction" is defined as no more than 0.10 mg/L for a single source and no more than 0.20 mg/L for all anthropogenic activities that influence the water quality limited segment. The allowance applies for surface water DO criteria and for Inter-gravel dissolved oxygen (IGDO) if a determination is made that the conditions are natural. The allowance for WLAs applies only to surface water 30-day and seven-day means; or

(iv) Under extraordinary circumstances to solve an existing, immediate and critical environmental problem, the Commission or Department may, after the completion of a TMDL but before the water body has achieved compliance with standards, consider a waste load increase for an existing source on a receiving stream designated water quality limited under sub-section (a) of the definition of "Water Quality Limited" in OAR 340-041-0002. This action must be based on the following conditions:

(I) That TMDLs, WLAs and LAs have been set; and

(II) That a compliance plan under which enforcement actions can be taken has been established and is being implemented on schedule; and

(III) That an evaluation of the requested increased load shows that this increment of load will not have an unacceptable

## Evaluations and Findings Report - Coyote Island Terminal

temporary or permanent adverse effect on beneficial uses or adversely affect threatened or endangered species; and

(IV) That any waste load increase granted under subparagraph (iv) of this paragraph is temporary and does not extend beyond the TMDL compliance deadline established for the water body. If this action will result in a permanent load increase, the action has to comply with sub-paragraphs (i) or (ii) of this paragraph.

(b) The activity, expansion, or growth necessitating a new or increased discharge load is consistent with the acknowledged local land use plans as evidenced by a statement of land use compatibility from the appropriate local planning agency.

(c) Oregon's water quality management policies and programs recognize that Oregon's water bodies have a finite capacity to assimilate waste. Unused assimilative capacity is an exceedingly valuable resource that enhances in-stream values and environmental quality in general. Allocation of any unused assimilative capacity should be based on explicit criteria. In addition to the conditions in subsection (a) of this section, the Commission or Department may consider the following:

(A) Environmental Effects Criteria:

(i) Adverse Out-of-Stream Effects. There may be instances where the non-discharge or limited discharge alternatives may cause greater adverse environmental effects than the increased discharge alternative. An example may be the potential degradation of groundwater from land application of wastes;

(ii) In-stream Effects. Total stream loading may be reduced through elimination or reduction of other source discharges or through a reduction in seasonal discharge. A source that replaces other sources, accepts additional waste from less efficient treatment units or systems, or reduces discharge loadings during periods of low stream flow may be permitted an increased discharge load year-round or during seasons of high flow, so long as the loading has no adverse effect on threatened and endangered species;

(iii) Beneficial Effects. Land application, upland wetlands application, or other non-discharge alternatives for appropriately treated wastewater may replenish groundwater levels and increase streamflow and assimilative capacity during otherwise low streamflow periods.

(B) Economic Effects Criteria. When assimilative capacity exists in a stream, and when it is judged that increased loadings will not have significantly greater adverse environmental effects than other alternatives to increased discharge, the economic effect of increased loading will be considered. Economic effects will be of two general types:

(i) Value of Assimilative Capacity. The assimilative capacity of Oregon's streams is finite, but the potential uses of this capacity are virtually unlimited. Thus it is important that priority be given to those beneficial uses that promise the greatest return (beneficial use) relative to the unused assimilative capacity that might be utilized. In-stream uses that will benefit from reserve assimilative capacity, as well as potential future beneficial use, will be weighed against the economic benefit associated with increased loading;

(ii) Cost of Treatment Technology. The cost of improved treatment technology, non-discharge and limited discharge alternatives may be evaluated.

### 6.1.1 Application of antidegradation policy

The above rule is intended to prevent unnecessary further degradation of water quality resulting from point and non-point source discharges and to protect, maintain, and enhance existing uses as well as designated beneficial uses. This rule is the foundation of water-quality regulation in the state. The parameter-specific water quality standards supplement this policy by providing standards against which to judge whether discharges could adversely affect one or more beneficial uses.

The Department of Environmental Quality interprets and applies the EQC adopted water quality standards, including the antidegradation policy, in a manner consistent with the guiding federal rules.

### **6.1.2 Present condition**

At river mile 271, the Columbia River is classified as water quality limited under the Clean Water Act, Section 303(d), for the parameters of: PCB; pH; mercury; and Temperature; and with potential concern for the parameter of: Phosphate Phosphorus.

In the Columbia River, Total Maximum Daily Loads (TMDLs) have been developed by the Department of Environmental Quality and approved by the U.S. Environmental Protection Agency (EPA) for the parameters of: Dioxin (2,3,7,8-TCDD) and Total Dissolved Gas.

### **6.1.3 Applicant's position on antidegradation**

The Columbia River is classified as Water Quality Limited; therefore, further degradation of listed parameters or degradation that would cause new parameters to be listed is not permissible.

Coyote Island Terminal is not a point source or non-point source facility and no activities associated with the facility will further degrade existing surface water quality or beneficial uses of waters of the state. Coyote Island Terminal will operate in compliance with the environmental permits issued and implement BMPs to mitigate for other potential discharges.

### **6.1.4 Public comment on antidegradation**

One commenter asked how many barges per day would be traveling to the facility, and how that would affect antidegradation. Other comments state that the antidegradation review was flawed because the findings cannot be made that the benefits of lowered water quality outweigh the environmental costs of the reduced water quality. Additionally, the comments state that the Applicant has supplied insufficient information for DEQ to conduct an evaluation of whether the project's water quality impact has socioeconomic impacts that outweigh the environmental costs. Another commenter is concerned with mercury deposition to the Columbia River as the trains move through the area, as well as mercury deposition through the burning of coal. The commenter states that mercury standards will not be met if DEQ fails to consider indirect impacts in addition to the construction and operation of the facility.

### **6.1.5 The Department of Environmental Quality evaluation and finding on antidegradation**

The Department of Environmental Quality concludes that implementation of the proposed project could result in some limited duration turbidity exceedances during pile driving. Potential spills could negatively affect some aspects of the Narrative Criteria (as described in OAR 340-041-0007). Each of these negative effects would be short term and highly localized and conditions in the 401 Water Quality Certification decision requiring prevention, monitoring, and contingency measures are imposed to prevent and mitigate negative effects.

The Department of Environmental Quality is reasonably assured that water quality standards for the parameters of Narrative Criteria (as described in OAR 340-041-0007), Biocriteria, Dissolved Oxygen, Total Dissolved Solids, and Toxic Substances, will be met, provided the Applicant and its contractors perform the required monitoring and implement effective measures for pollution prevention, control and containment, and stormwater management during construction and operation of the proposed facilities, as required by the 401 Water Quality Certification conditions.

Pile driving and removal of temporary piles is anticipated to have short-term, localized impacts due to re-suspension of bottom sediments. Nearby sediment samples show that substrate in the general area consists mainly of sand, with some cobble, silt, and gravel. Given the nature of the substrate, and the short term duration of any sediment discharge, it is expected that any suspended sediment will settle rapidly. Additionally, according to National Marine Fisheries Services, there are no spawning areas within the vicinity of the project.

The proposed project could result in short-term turbidity and pH loads due to pile driving and temporary pile removal, and concrete work. These are not expected to exceed water quality standards for those parameters provided the Applicant and its contractors adhere to the 401 Water Quality Certification conditions intended to control for those parameters. For pH this includes prohibitions on uncured concrete contacting any flowing waters.

Because the facility is being designed to have no stormwater discharge, there will not be an addition of other pollutants to the Columbia River via runoff from impervious surfaces.

Given the proposed discharges of new loads, the project is subject to an antidegradation review. However, according to DEQ's Antidegradation IMD, new [401] certifications that will not result in a lower water quality do not require a complete review, but the permit record must fully document that no lowering of water quality is expected to occur for any water quality parameter. DEQ does not anticipate the new loads from the proposed activity will result in lower water quality. Therefore, a complete antidegradation review is not necessary. The following sub-sections of this Evaluation Report and Findings provide DEQ's analysis and documentation for relevant water quality standards that no lowering of water quality is expected to occur for any water quality parameter.

Many of the public comments on antidegradation were concerned with impacts from coal dust, including mercury. Coal dust is not allowed to enter a waters of the state, per the 401 water quality certification. Additional comments were concerned with atmospheric deposition of mercury from fossil fuel burning. Although DEQ recognizes this concern, it is beyond the scope of this 401 water quality certification. The scope of the 401 WQC is limited to the facility itself, and not ship traffic along the Columbia River. There could be some small erosional increase due to increased ship traffic, but traffic would not be over the amount the USACE accounts for in the operation and maintenance of the federally authorized navigation channel.

The antidegradation policy is intended to prevent unnecessary further degradation of water quality resulting from point and non-point sources and to protect, maintain, and enhance beneficial uses. This policy is the core of the water-quality regulations in the state. The parameter-specific standards supplement this policy by providing standards against which to judge whether changes in a water-quality parameters could adversely affect one or more beneficial uses.

Only through strict adherence with the 401 water quality certification conditions by the Applicant and its contractors, and faithful adherence to the stormwater treatment described in the 401 Water Quality Certification and proposed in preliminary stormwater management plans, as well as on-going operation and maintenance of those facilities, will the proposed project not significantly lower water quality and thus comply with the Department of Environmental Quality's Antidegradation policy.

## 6.2 Statewide narrative criteria OAR 340-041-0007

(1) Notwithstanding the water quality standards contained in this Division, the highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor, and other deleterious factors at the lowest possible levels.

(2) Where a less stringent natural condition of a water of the State exceeds the numeric criteria set out in this Division, the natural condition supersedes the numeric criteria and becomes the standard for that water body. However, there are special restrictions, described in OAR 340-041-0004(9)(a)(D)(iii), that may apply to discharges that affect dissolved oxygen.

(3) For any new waste sources, alternatives that utilize reuse or disposal with no discharge to public waters must be given highest priority for use wherever practicable. New source discharges may be approved subject to the criteria in OAR 340-041-0004(9).

(4) No discharges of wastes to lakes or reservoirs may be allowed except as provided in section OAR 340-041-0004(9).

(7) Sand and gravel removal operations must be conducted pursuant to a permit from the Division of State Lands and separated from the active flowing stream by a watertight berm wherever physically practicable. Recirculation and reuse of process water must be required wherever practicable. Discharges or seepage or leakage losses to public waters may not cause a violation of water quality standards or adversely affect legitimate beneficial uses.

(8) Road building and maintenance activities must be conducted in a manner so as to keep waste materials out of public waters and minimize erosion of cut banks, fills, and road surfaces.

(9) In order to improve controls over nonpoint sources of pollution, federal, State, and local resource management agencies will be encouraged and assisted to coordinate planning and implementation of programs to regulate or control runoff, erosion, turbidity, stream temperature, stream flow, and the withdrawal and use of irrigation water on a basin-wide approach so as to protect the quality and beneficial uses of water and related resources. Such programs may include, but not be limited to, the following:

(a) Development of projects for storage and release of suitable quality waters to augment low stream flow;

(b) Urban runoff control to reduce erosion;

(c) Possible modification of irrigation practices to reduce or minimize adverse impacts from irrigation return flows;

(d) Stream bank erosion reduction projects; and

(e) Federal water quality restoration plans.

(10) The development of fungi or other growths having a deleterious effect on stream bottoms, fish or other aquatic life, or that are injurious to health, recreation, or industry may not be allowed;

(11) The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed;

## Evaluations and Findings Report - Coyote Island Terminal

(12) The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed;

(13) Objectionable discoloration, scum, oily sheens, or floating solids, or coating of aquatic life with oil films may not be allowed;

(14) Aesthetic conditions offensive to the human senses of sight, taste, smell, or touch may not be allowed;

(15) Radioisotope concentrations may not exceed maximum permissible concentrations (MPC's) in drinking water, edible fishes or shellfishes, wildlife, irrigated crops, livestock and dairy products, or pose an external radiation hazard;

(16) Minimum Design Criteria for Treatment and Control of Wastes. Except as provided in OAR 340-041-0101 through 340-041-0350, and subject to the implementation requirements set forth in OAR 340-041-0061, prior to discharge of any wastes from any new or modified facility to any waters of the State, such wastes must be treated and controlled in facilities designed in accordance with the following minimum criteria.

(a) In designing treatment facilities, average conditions and a normal range of variability are generally used in establishing design criteria. A facility once completed and placed in operation should operate at or near the design limit most of the time but may operate below the design criteria limit at times due to variables which are unpredictable or uncontrollable. This is particularly true for biological treatment facilities. The actual operating limits are intended to be established by permit pursuant to ORS 468.740 and recognize that the actual performance level may at times be less than the design criteria.

\*\*\*\*

(B) Industrial wastes:

(i) After maximum practicable in-plant control, a minimum of secondary treatment or equivalent control (reduction of suspended solids and organic material where present in significant quantities, effective disinfection where bacterial organisms of public health significance are present, and control of toxic or other deleterious substances);

(ii) Specific industrial waste treatment requirements may be determined on an individual basis in accordance with the provisions of this plan, applicable federal requirements, and the following:

(I) The uses that are or may likely be made of the receiving stream;

(II) The size and nature of flow of the receiving stream;

(III) The quantity and quality of wastes to be treated; and

(IV) The presence or absence of other sources of pollution on the same watershed.

(iii) Where industrial, commercial, or agricultural effluents contain significant quantities of potentially toxic elements, treatment requirements may be determined utilizing appropriate bioassays;

(iv) Industrial cooling waters containing significant heat loads must be subjected to off-stream cooling or heat recovery prior to discharge to public waters;

(v) Positive protection must be provided to prevent bypassing of raw or inadequately treated

industrial wastes to any public waters;

(vi) Facilities must be provided to prevent and contain spills of potentially toxic or hazardous materials.

### **6.2.1 Application of narrative criteria standard**

This standard is self-explanatory in its purpose of prohibiting degradation of water quality, particularly with respect to aesthetic offenses, and to ensure that where natural (non-anthropogenic) causes result in water quality that exceeds the numeric criteria, that the naturally occurring condition shall be the standard.

### **6.2.2 Present condition of narrative criteria**

#### **6.2.2.1 Fungi and other growths**

The Columbia River is impounded by several dams, thus restricting flow. Slow flows and nutrient laden stormwater can create conditions for algal and other growths during warm times of the year. However, there is little current information available as to unacceptable deleterious effect on stream bottoms, fish or other aquatic life; or demonstrating that fungi or other growths are injurious to health, recreation, or industry in the subject waterways.

According to a 2012 study conducted by the Department of Environmental Quality near the project site (*Regional Environmental Monitoring and Assessment Program: 2009 Lower mid-Columbia River Ecological Assessment Final Report, 2012*) Chlorophyll a concentrations were slightly higher than the EPA sub-ecoregion reference criterion (USEPA, 2001) (5.6 µg/L vs 3.4 µg/L).

#### **6.2.2.2 Creation of taste, odor, toxic or other conditions deleterious to fish, aquatic life, drinking water potability or fish or shellfish palatability**

There is no current information available as to unacceptable taste and odor in the system of surface waters having a deleterious effect on fish, other aquatic life, potability of drinking water, or palatability of fish or shellfish.

Other facilities located within 0.5 miles of the project site include the Boardman Cellulosic Ethanol Demonstration Project, Pacific Ethanol Columbia, LLC, and Reclaim Technologies, Inc., Boardman Processing Plant. All of these facilities have the Department of Environmental Quality permits for discharges.

The City of Boardman obtains its drinking water from groundwater wells adjacent to the Columbia River; the collectors are located two miles or more from the project location. Although there is a shallow groundwater table in this area (~30ø), stormwater is not expected to ever reach this groundwater table due to the low annual precipitation, and due to the installation of bioswales, which will help filter out any contaminants in the stormwater.

Toxics are discussed in Section 6.11 of this document. The Columbia River is listed as impaired for multiple parameters which may contribute to deleterious conditions for fish and aquatic life. While fishing occurs in the Columbia River, no information is available to indicate any adverse affects to fish palatability from this project.

### **6.2.2.3 Appreciable bottom or sludge deposits or any organic or inorganic deposits**

Some Columbia River sediment sampling has occurred in the general vicinity of the project site. In 1999, the US Army Corps of Engineers collected sediment samples from Messner Cove, upstream of the project site. One sample showed silver concentrations slightly elevated from 2006 Sediment Evaluation Framework (SEF) benthic toxicity screening levels (SL); the sample was 2.2 ppm, while the SL is 2.0 ppm. Additionally dimethyl phthalate concentrations were 54-120 ppb, exceeding the 2006 SL of 46 ppb.

Downstream of the project, samples were collected at the Port of Morrow's Terminal 1 barge slip. Sample results were all below 2006 SEF SLs.

### **6.2.2.4 Objectionable discoloration, scum, oil sheens, or floating solids or coating of aquatic life with oil films**

No information is available that indicates that any of these issues are currently present in the Columbia River at the project site; however, the potential for sheens to appear due to accidental spills or incidental to industrial uses is present.

### **6.2.2.5 Aesthetic conditions offensive to the human senses of sight, taste, smell or touch**

No information is available that indicates that any of these issues are currently present in the Columbia River at the project site.

### **6.2.2.6 Radioisotope concentrations**

No information is available that indicates current exceedance of maximum permissible concentrations (MCPs) in drinking water, edible fishes or shellfishes, wildlife, irrigated crops, livestock and dairy products within the Columbia River. There is no external radiation hazard posed by current conditions of the affected waterways.

### **6.2.2.7 Minimum design criteria for treatment and control of wastes**

As this is a new facility, currently there are no treatment or control of wastes necessary.

## **6.2.3 Applicant's position on narrative criteria**

### **6.2.3.1 Fungi and other growths**

### **6.2.3.2 Creation of taste, odor, toxic or other conditions deleterious to fish, aquatic life, drinking water potability or fish or shellfish palatability**

### **6.2.3.3 Appreciable bottom or sludge deposits or any organic or inorganic deposits**

### **6.2.3.4 Objectionable discoloration, scum, oil sheens, or floating solids or coating of aquatic life with oil films**

### **6.2.3.5 Aesthetic conditions offensive to the human senses of sight, taste, smell or touch**

### **6.2.3.6 Radioisotope concentrations**

### **6.2.3.7 Minimum design criteria for treatment and control of sewage wastes**

### **6.2.3.8 Summary of applicant's position on narrative criteria**

Coyote Island Terminal is designed to uphold strict environmental standards. The facility will operate in compliance with environmental permits issued by the Department of Environmental Quality. BMPs will be implemented during construction and Coyote Island Terminal is designed to be a zero discharge facility, therefore having no impact on water quality. All stormwater will from the project site will be managed through BMPs to mitigate pollutants. Stormwater runoff will not be of sufficient quantity to migrate to the underlying shallow alluvial aquifer, will be fully contained with the bioswales, and as a result will have no effect on area drinking water wells. Dissolved pollutants that may be present in stormwater will not impact shallow groundwater, thereby not impacting the Columbia River.

### **6.2.4 Public comment on narrative criteria**

#### **6.2.4.1 Fungi and other growths**

#### **6.2.4.2 Creation of taste, odor, toxic or other conditions deleterious to fish, aquatic life, drinking water potability or fish or shellfish palatability**

One commenter is concerned about toxic substances in the sediment in which the pile driving will occur. Another comment is that DEQ fails to address fugitive coal dust and spillage from coal conveyors and barge-loading. Another commenter is concerned with the potential for lead, nickel, tin, cadmium, mercury, antimony, and arsenic to enter the waterway through coal deposition. Another comment is concerned about the amount of PAH that could bioaccumulate due to coal in the river sediment. Additionally the commenter is concerned that the existence of coal in water would create toxic conditions for fish and effect palatability.

#### **6.2.4.3 Appreciable bottom or sludge deposits or any organic or inorganic deposits**

#### **6.2.4.4 Objectionable discoloration, scum, oil sheens, or floating solids or coating of aquatic life with oil films**

One commenter stated that coal dust can be a suspended solid, which can decrease the clarity of the water, reducing the photosynthetic capacity of the plants and alter the ecosystem.

#### **6.2.4.5 Aesthetic conditions offensive to the human senses of sight, taste, smell or touch**

#### **6.2.4.6 Radioisotope concentrations**

One commenter is concerned about toxic substances and radionuclides in the sediment in which the pile driving will occur. Another commenter is concerned with coal containing radionuclides being ejected into the soils, waterways and air due to atmospheric inversions. Another commenter is concerned about thorium and strontium entering the waterway through deposition of coal.

#### **6.2.4.7 Minimum design criteria for treatment and control of sewage wastes**

One commenter stated that the soil infiltration rate is too high for bioswales, and that stormwater will be allowed to mix with groundwater.

### **6.2.5 The Department of Environmental Quality evaluation and finding on narrative criteria**

### **6.2.5.1 Fungi and other growths**

The Department of Environmental Quality does not anticipate impacts to this parameter.

### **6.2.5.2 Creation of taste, odor, toxic or other conditions deleterious to fish, aquatic life, drinking water potability or fish or shellfish palatability**

Creation of Taste, Odor, Drinking Water Potability or Fish or Shellfish Palatability issues are unlikely to occur as a result the proposed activities.

Creation of Conditions Deleterious to Fish or Aquatic Life could occur due to loss of habitat, habitat modifications caused by in-water work methods (e.g. hydroacoustic effects of pile driving). However, long term deleterious conditions are not anticipated to be created by the project actions.

Containment measures and spill prevention measures are required to minimize the potential for adverse impacts. Adherence to NMFS conservation measures and NMFS and ODFW in-water work windows is required. A preliminary stormwater management plan was developed by the Applicant, which includes bioswales to prevent the addition of heavy metals and other toxics present in stormwater run off from being discharged to waters of the state.

Pile driving is not anticipated to release toxic substances; results from nearby sediment testing at the Port of Morrow showed mainly coarse grained sediments. Typically pollutants sorb onto fine-grained sediments such as silt and clay. Coal and coal dust are not permitted to enter the Columbia River, or any other waters of the state. Additionally, once the coal enters the facility, it will remain covered, preventing spillage from coal-conveyors and barge loading.

### **6.2.5.3 Appreciable bottom or sludge deposits or any organic or inorganic deposits**

Spill prevention measures are required in the 401 Water Quality Certification to prevent any other kind of deposits, including organic or inorganic deposits. Pile driving is anticipated to have short-term, localized impacts due to re-suspension of bottom sediments. Given the nature of the substrate, and the short term duration of any sediment discharge, it is expected that any suspended sediment will settle rapidly. Additionally, turbidity monitoring will be required.

### **6.2.5.4 Objectionable discoloration, scum, oil sheens, or floating solids or coating of aquatic life with oil films**

Objectionable sheens, floating solids, and coating of Aquatic Life with oil films is not anticipated by the proposed project or allowed under the 401 Water Quality Certification. In the event that a spill occurs during in-water work it must be properly treated, controlled, and reported to the Department of Environmental Quality under the 401 Water Quality Certification. In addition the 401 Water Quality Certification contains conditions requiring spill prevention and other preventative measures as well as monitoring for accidental or incidental release of fluids which may cause sheens.

Under the 401 Water Quality Certification vehicle and equipment maintenance, washing and re-fueling must occur in an upland location at least 150 feet from waters, and be contained so as to prevent any discharge to surface waters.

Coal dust is not permitted to enter the Columbia River, so it is not anticipated that it decrease the clarity of the water.

### **6.2.5.5 Aesthetic conditions offensive to the human senses of sight, taste, smell or touch**

Degradation of Aesthetic Conditions offensive to human senses is unlikely.

### **6.2.5.6 Radioisotope concentrations**

The proposed project is not expected to introduce any material or practice that could result in an exceedance of maximum permissible concentrations (MCPs) or pose an external radiation hazard.

Pile driving is not anticipated to release toxic substances; results from nearby sediment testing at the Port of Morrow showed mainly coarse grained sediments. Typically pollutants sorb onto fine-grained sediments such as silt and clay. Coal and coal dust are not permitted to enter the Columbia River, or any other waters of the state.

### **6.2.5.7 Minimum design criteria for treatment and control of wastes**

The Applicant has proposed to treat all stormwater within the project area, with no stormwater discharge leaving the site. Although the surrounding soils have a high infiltration rate, the Applicant will be placing an amended soil in the bioswales to retain water, allowing the water to slowly infiltrate into the subsurface. The Department of Environmental Quality is reasonably assured that discharge of wastes from the project's construction and operation of the facilities will be treated and controlled in accordance with the minimum criteria.

## **6.3 Bacteria OAR 340-041-009**

(1) Numeric Criteria: Organisms of the coliform group commonly associated with fecal sources (MPN or equivalent membrane filtration using a representative number of samples) may not exceed the criteria described in paragraphs (a) and (b) of this paragraph:

(a) Freshwaters and Estuarine Waters Other than Shellfish Growing Waters:

(A) A 30-day log mean of 126 E. coli organisms per 100 milliliters, based on a minimum of five (5) samples;

(B) No single sample may exceed 406 E. coli organisms per 100 milliliters.

(b) Marine Waters and Estuarine Shellfish Growing Waters: A fecal coliform median concentration of 14 organisms per 100 milliliters, with not more than ten percent of the samples exceeding 43 organisms per 100 ml.

\*\*\*\*

(10) Water Quality Limited for Bacteria: In those water bodies, or segments of water bodies identified by the Department as exceeding the relevant numeric criteria for bacteria in the basin standards and designated as water-quality limited under section 303(d) of the Clean Water Act, the requirements specified in section 11 of this rule and in OAR 340-041-0061(12) must apply.

(11) In water bodies designated by the Department as water-quality limited for bacteria, and in accordance with priorities established by the Department, development and implementation of a bacteria management plan may be required of those sources that the Department determines to be contributing to the problem. The Department may determine that a plan is not necessary for a particular stream segment or segments within a water-quality limited basin based on the contribution of the segment(s) to the problem. The bacteria management plans will identify the technologies, best management practices and/or measures and approaches to be implemented by point and nonpoint sources to limit bacterial contamination. For point sources, their National Pollutant Discharge Elimination System permit is their bacteria management plan. For nonpoint sources, the bacteria management plan will be developed by designated management agencies (DMAs) which will identify the appropriate best management practices or measures and approaches.

### **6.3.1 Application of bacteria standard**

This bacteria standard is one of public health significance and takes into account the cumulative impacts of all coliform bacteria discharges; however, its major emphasis is on the control of human fecal coliform bacteria sources.

### **6.3.2 Present condition of bacteria**

Agriculture is the dominant land use in Morrow County. Livestock and other sources of fecal related bacteria that could enter the Columbia River exist upstream of the project area. Other sources of Bacteria include stormwater runoff.

### **6.3.3 Applicant's position on bacteria**

A numeric value for bacteria limits has been established by the Department of Environmental Quality on the basis of the number of *E. coli* organism per 100 milliliters. Bacteria are mainly associated with a fecal source, typically a result of wastewater effluent discharge. There are no apparent sources of fecal material in the project vicinity. A Phase 1 Environmental Site Assessment (ESA) was conducted for the site and no Recognized Environmental Concerns were found that would indicate that bacteria would be present in the sediments at the site.

Coyote Island Terminal concludes that:

- No discharge to surface water or groundwater from Coyote Island Terminal will occur.
- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal.
- No sources of bacterial are readily apparent, nor were sources of bacterial identified in the Phase 1 ESA.
- There is no effect on water quality.

### **6.3.4 Public comment on bacteria**

No comments were received relative to bacteria.

### **6.3.5 The Department of Environmental Quality evaluation and finding on bacteria**

Proposed activities are not anticipated to introduce new sources of bacteria to the Columbia River.

## **6.4 Biocriteria OAR 340-041-0011**

340-041-0011: waters of the state shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.

340-041-0002(76) defines "Without Detrimental Changes in the Resident Biological Community" as "no loss of ecological integrity when compared to natural conditions at an appropriate reference site or region."

"Ecological integrity" is defined in OAR 340-041-0002(19) as "the summation of chemical, physical, and biological integrity capable of supporting and maintaining a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitat for the region."

An "Appropriate Reference Site or Region" is defined in OAR 340-041-0002(5) as "a site on the same water body or within the same basin or eco-region that has similar habitat conditions and represents the water quality and biological community attainable within the areas of concern."

#### **6.4.1 Application of biocriteria standard**

The biocriteria standard is meant to complement the parameter-specific criteria. The parameter-specific criteria are designed to give full protection to the most sensitive beneficial use, with the implicit assumption that if the most sensitive beneficial use is protected, then all uses will be protected. However, the application of these criteria is very limited in considering multiple stressors and cumulative effects. By contrast, the biocriteria standard is aimed at assessing total impact to the community in situ. Biocriteria make it possible to evaluate the impact of a source without a need for measuring every possible water quality variable. Thus, the standard is applied as a measure of the impact of a source by comparing the biological integrity (as represented by appropriate expressions) downstream of the source with that at a reference site or region.

#### **6.4.2 Present condition of biocriteria**

The ecological integrity of the Columbia River is degraded due to continued anthropogenic disturbance associated with the current and historic hydroelectric dams, navigation practices, land use practices, and point source and non-point source discharges.

The documented biological community within the Columbia River includes resident and anadromous fish, turtles, amphibians, aquatic invertebrates, passerine birds, shore birds, raptors, and small mammals, though the water quality criteria of Biocriteria applies only to aquatic life. In the project area there are four federally listed aquatic species, with several evolutionary significant units and distinct population segments of these species, according to the Applicant. While the factors that have led to the decline of these species are manifold, water quality has played a role.

The action area is used as a migration corridor for the federally listed adult steelhead (*Oncorhynchus mykiss*), and Chinook salmon (*Oncorhynchus tshawytscha*); juveniles may use it for migration and rearing. The action area is also used a migration corridor for the federally listed sockeye salmon (*Oncorhynchus nerka*), and bull trout (*Salvelinus confluentus*).

#### **6.4.3 Applicant's position on biocriteria**

OAR 340-041-0011 states "Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities."

A Biological Assessment has been completed to evaluate the impacts to aquatic species. Coyote Island Terminal will have no discharge to the waters of the state; therefore, there will be no impacts on water quality that could have detrimental changes to the resident biological community.

Coyote Island Terminal concludes that:

- No discharge to surface water or groundwater from Coyote Island Terminal will occur.
- There will be no impacts to water quality that will cause detrimental change to the resident biological community.
- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal and temporary.
- BMPs will be implemented during construction to minimize sediment releases and reduce noise pollution.

#### **6.4.4 Public Comment on biocriteria**

One commenter is concerned that the accumulation of sediments with of coal dust will have a detrimental effect on the benthic communities.

#### **6.4.5 The Department of Environmental Quality evaluation and finding on biocriteria**

NMFS is evaluating the project for its impacts on species listed under the Endangered Species Act (ESA). NMFS will propose provisions for the protection of listed species.

The 401 Water Quality Certification requires the Applicant to comply with the NMFS biological opinion conservation measures as well as the NMFS and ODFW in-water work windows, whichever is strictest. The 401 Water Quality Certification also includes prohibitions on disrupting aquatic life movements and requires unobstructed fish passage at all times. No coal dust will be permitted to enter the Columbia River or any other waters of the state. Through strict adherence with the conditions mentioned above as well as conditions of the 401 Water Quality Certification designed to protect water quality from untreated stormwater discharges, turbidity, toxics and other harmful pollutants, the Department of Environmental Quality is reasonably assured the project will comply with the Biocriteria standard.

## **6.5 Dissolved oxygen OAR 340-041-0016**

Dissolved Oxygen (DO): No wastes may be discharged and no activities may be conducted that either alone or in combination with other wastes or activities will cause violation of the following standards: The changes adopted by the Commission on January 11, 1996, become effective July 1, 1996. Until that time, the requirements of this rule that were in effect on January 10, 1996, apply:

(1) For water bodies identified as active spawning areas in the places and times indicated on the following Tables and Figures set out in OAR 340-041-0101 to 340-041-0340: Tables 101B, 121B, and 190B, and Figures 130B, 151B, 160B, 170B, 180A, 201A, 220B, 230B, 260A, 271B, 286B, 300B, 310B, 320B, and 340B, (as well as any active spawning area used by resident trout species), the following criteria apply during the applicable spawning through fry emergence periods set forth in the tables and figures and, where resident trout spawning occurs, during the time trout spawning through fry emergence occurs:

(a) The dissolved oxygen may not be less than 11.0 mg/l. However, if the minimum intergravel dissolved oxygen, measured as a spatial median, is 8.0 mg/l or greater, then the DO criterion is 9.0 mg/l;

(b) Where conditions of barometric pressure, altitude, and temperature preclude attainment of the 11.0 mg/l or 9.0 mg/l criteria, dissolved oxygen levels must not be less than 95 percent of saturation;

(c) The spatial median intergravel dissolved oxygen concentration must not fall below 8.0 mg/l.

(2) For water bodies identified by the Department as providing cold-water aquatic life, the dissolved oxygen may not be less than 8.0 mg/l as an absolute minimum. Where conditions of barometric pressure, altitude, and temperature preclude attainment of the 8.0 mg/l, dissolved oxygen may not be less than 90 percent of saturation. At the discretion of the Department, when the Department determines that adequate information exists, the dissolved oxygen may not fall below 8.0 mg/l as a 30-day mean minimum, 6.5 mg/l as a seven-day minimum mean, and may not fall below 6.0 mg/l as an absolute minimum (Table 21); 13

(3) For water bodies identified by the Department as providing cool-water aquatic life, the dissolved oxygen may not be less than 6.5 mg/l as an absolute minimum. At the discretion of the Department, when the Department determines that adequate information exists, the dissolved oxygen may not fall below 6.5 mg/l as a 30-day mean minimum, 5.0 mg/l as a seven-day minimum mean, and may not fall below 4.0 mg/l as an absolute minimum (Table 21);

(4) For water bodies identified by the Department as providing warm-water aquatic life, the dissolved oxygen may not be less than 5.5 mg/l as an absolute minimum. At the discretion of the Department, when the Department determines that adequate information exists, the dissolved oxygen may not fall below 5.5 mg/l as a 30-day mean minimum, and may not fall below 4.0 mg/l as an absolute minimum (Table 21);

\*\*\*\*

### **6.5.1 Application of dissolved oxygen standard**

Dissolved oxygen is essential for maintaining aquatic life. Historically, the depletion of dissolved oxygen was one of the most frequent water pollution problems. Its effect on aquatic organisms, especially at low concentrations, has been studied extensively. Sensitivity to low dissolved oxygen concentrations differs between species, between various life stages (egg, larvae, and adults), and between different life processes (feeding, growth, and reproduction).

### **6.5.2 Present condition of dissolved oxygen**

The water quality standard for dissolved oxygen for the Lower Columbia River is for cold-water aquatic life. The Department of Environmental Quality probabilistic monitoring showed dissolved oxygen in the Columbia River near Boardman to be 9.4 mg/L; screening values are 11.0 mg/L.

The Columbia River is not currently listed as impaired for the parameter of Dissolved Oxygen. Dissolved Oxygen levels in temperature impaired portions of the Columbia River may be reduced during lowest flows of summer when river temperatures are at their highest. However, Dissolved Oxygen in the Columbia River may be improved by augmented flows released from behind dams during the summer months.

### **6.5.3 Applicant's position on dissolved oxygen**

Coyote Island Terminal is located on a portion of the Columbia River that has a designated beneficial use for shad and sturgeon spawning.

Coyote Island Terminal will have no discharge of water to surface water or groundwater that alone or combined with other sources would violate the standards listed for DO. The only potential discharge to surface water is the existing sediments that could be disturbed during installation and removal of piles during the construction phase of the project. A Phase 1 ESA was conducted for the site and no recognizable environmental conditions were found that would indicate that any constituents that could result in a consumption of dissolved oxygen would be present in the sediments at the site.

Conclusion:

- No discharge of waste to surface water or groundwater from Coyote Island Terminal will occur.
- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal and localized.
- No sources of oxygen demanding constituents were identified in the Phase 1 ESA.
- There is no impact to water quality.

#### **6.5.4 Public comment on dissolved oxygen**

DEQ did not receive comments specifically pertaining to dissolved oxygen.

#### **6.5.5 The Department of Environmental Quality evaluation and finding on dissolved oxygen**

In-stream and inter-gravel Dissolved Oxygen levels can be influenced by many factors. Potential factors include: temperature increases, pH changes, substrate content, groundwater inflow and hyporheic exchange, levels of total suspended solids, presence of toxics, excess dissolved gases, algal blooms or other decaying organic matter; and degree of sedimentation already occurring within the stream. This project is likely limited to: levels of total suspended solids, turbidity, presence of toxics, temperature increases, and pH changes.

Impairment of Dissolved Oxygen can be avoided by controlling the above factors through adherence with the 401 Water Quality Certification conditions regarding pollution prevention, containment, stormwater management, keeping organic matter from entering the streambed, limiting riparian vegetation removal and restoring disturbed vegetation, employing effective erosion and sediment control measures, and stabilizing disturbed stream beds and banks prior to reintroduction of stream flows; measures to avoid pH changes due to river contact with uncured cement can be applied during construction. The Columbia River does not have finer grained sediment where organics that may contribute to Dissolved Oxygen are generally present. Moreover the Columbia River has sufficient flow to attenuate small reductions in dissolved oxygen levels.

Provided the Applicant and its contractors strictly adhere to the conditions of the 401 Water Quality Certification, the Department of Environmental Quality is reasonably assured that Dissolved Oxygen levels will not be impaired by the proposed action.

## **6.6 Nuisance phytoplankton growth OAR 340-041-0019**

(1)(a) The following values and implementation program must be applied to lakes, reservoirs, estuaries and streams, except for ponds and reservoirs less than ten acres in surface area, marshes and saline lakes:

(b) The following average Chlorophyll a values must be used to identify water bodies where phytoplankton may impair the recognized beneficial uses:

(A) Natural lakes that thermally stratify: 0.01 mg/l;

(B) Natural lakes that do not thermally stratify, reservoirs, rivers and estuaries: 0.015 mg/l;

(C) Average Chlorophyll a values may be based on the following methodology (or other methods approved by the Department): A minimum of three samples collected over any three consecutive months at a minimum of one representative location (e.g., above the deepest point of a lake or reservoir or at a point mid-flow of a river) from samples integrated from

the surface to a depth equal to twice the secchi depth or the bottom (the lesser of the two depths); analytical and quality assurance methods must be in accordance with the most recent edition of Standard Methods for the Examination of Water and Wastewater.

(2) Upon determination by the Department that the values in section (1) of this rule are exceeded, the Department may:

(a) In accordance with a schedule approved by the Commission, conduct such studies as are necessary to describe present water quality; determine the impacts on beneficial uses; determine the probable causes of the exceedance and beneficial use impact; and develop a proposed control strategy for attaining compliance where technically and economically practicable. Proposed strategies could include standards for additional pollutant parameters, pollutant discharge load limitations, and other such provisions as may be appropriate. Where natural conditions are responsible for exceedance of the values in section (1) of this rule or beneficial uses are not impaired, the values in section (1) of this rule may be modified to an appropriate value for that water body;

(b) Conduct necessary public hearings preliminary to adoption of a control strategy, standards or modified values after obtaining Commission authorization;

(c) Implement the strategy upon adoption by the Commission.

(3) In cases where waters exceed the values in section (1) of this rule and the necessary studies are not completed, the Department may approve new activities (which require Department approval), new or additional (above currently approved permit limits) discharge loadings from point sources provided that it is determined that beneficial uses would not be significantly impaired by the new activity or discharge.

### **6.6.1 Application of standard for nuisance phytoplankton**

Certain types of wastes in water, under certain ambient conditions, may stimulate nuisance algal growths. The magnitude of such growths is determined by measuring chlorophyll a, a photosynthetic pigment which is very closely correlated to biomass. OAR 340-41-0019 sets forth a process for determining when phytoplankton growths may be reaching nuisance proportions. This rule is designed to trigger further study and control strategies if the chlorophyll a values exceed specified levels in streams or lakes. Where natural conditions are responsible for the algal blooms, the existing level of chlorophyll is considered to be the upper level of acceptability.

### **6.6.2 Present condition of nuisance phytoplankton**

According to a 2012 study conducted by the Department of Environmental Quality near the project site (*Regional Environmental Monitoring and Assessment Program: 2009 Lower mid-Columbia River Ecological Assessment Final Report, 2012*) Chlorophyll a concentrations were slightly higher than the EPA sub-ecoregion reference criterion (USEPA, 2001) (5.6 µg/L vs 3.4 µg/L). Phosphate phosphorus is listed as a potential concern in the area of the Columbia River, and typically is a limiting nutrient in algal growth.

### **6.6.3 Applicant's position on nuisance phytoplankton**

Coyote Island Terminal will have no discharge of water to surface water or groundwater that would violate the standards listed for chlorophyll. The only potential discharge to surface water is the existing sediments that could be disturbed during installation and removal of piles during the construction phase of the project. Phase 1 ESA was conducted for the site and no recognized environmental concerns were found that would indicate that any constituents that could result in a consumption of dissolved oxygen would be present in the sediments at the site.

Conclusion:

- No discharge of waste to surface water or groundwater from Coyote Island Terminal will occur.

- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal and localized.
- No sources of chlorophyll were identified in the Phase 1 ESA.
- There is no impact to water quality.

#### **6.6.4 Public comment on nuisance phytoplankton**

One applicant is concerned that macronutrients from coal, including nitrogen and phosphorus, will enter the Columbia River, encouraging algal growth and eutrophication.

#### **6.6.5 The Department of Environmental Quality evaluation and finding on nuisance**

##### **phytoplankton**

The Columbia River is impounded by several dams, thus restricting flow. Slow flows and nutrient laden stormwater can create conditions for algal and other growths during warm times of the year; however, the deep, flowing waters of the Columbia at the project area are typically contrary to the favorable conditions (warm, slow, nutrient rich waters) which promote nuisance phytoplankton growth and algal blooms.

No coal is allowed to enter the Columbia River. The proposed project will not result in additional sources of nuisance phytoplankton nor will it produce more favorable conditions for nuisance phytoplankton growth; therefore, increases in nuisance phytoplankton and associated algal blooms are not likely as a result of the project.

## **6.7 pH OAR 340-041-0021**

OAR 340-041-0104 Water Quality Standards and Policies Specific to the Main Stem Columbia River

(1) pH (hydrogen ion concentration). pH values may not fall outside the following range: main stem Columbia River (mouth to river mile 309): 7.0 - 8.5.

#### **6.7.1 Application of pH standard**

The values measured for pH relates to the balance of acid and alkaline substances in the water. The theoretical range is from 1 (very acid) to 14 (very alkaline). Most streams in Oregon have pH values falling somewhere between 6.5 and 8.5. There may be seasonal fluctuations in the pH number due to substances entering the water from land or bio-chemical activity in the water. Since the fish and other aquatic life in any particular stream have evolved under rather specific pH conditions, it is important to set a pH standard that reflects natural conditions and will prevent any intolerable acid/alkalinity imbalances.

#### **6.7.2 Present condition of pH**

The Mainstem Columbia River Basin specific pH limit is between 7.0 and 8.5 (OAR 340-041-0104). The Department of Environmental Quality studies show pH ranges in the general vicinity between 7.5 and 8.4.

### 6.7.3 Applicant's position on pH

Coyote Island Terminal will have no discharge of water to surface water or groundwater that would violate the standards listed for pH. The only potential discharge to surface water is the existing sediments that could be disturbed during installation and removal of piles during the construction phase of the project. Phase 1 ESA was conducted for the site and no recognizable environmental concerns were found that would indicate that any constituents that could result in a consumption of dissolved oxygen would be present in the sediments at the site.

Conclusion:

- No discharge of waste to surface water or groundwater from Coyote Island Terminal will occur.
- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal and localized.
- There are no identified constituents that could potentially alter the pH of the Columbia River.
- There is no impact to water quality.

### 6.7.4 Public comment on pH

One comment is that rainwater from coal piles can be highly acidic, which, if allowed to enter the Columbia River, could impact the pH of the water. The commenter is concerned about the type of coal being transported.

### 6.7.5 The Department of Environmental Quality evaluation and finding on pH

All stormwater will be fully treated on the site through bioswales. Additionally, stormwater will not come into contact with coal. DEQ's air containment discharge permit allows only sub-bituminous coal be transferred at the facility.

Potential excursions from the pH standard could result from construction work involving contact with uncured concrete or concrete mixing and placement. The 401 Water Quality Certification requires work practices to prevent such contact including isolating concrete from contact with waters until it is cured. Provided the Applicant and its contractors adhere to these conditions, the project is not expected to contribute to hydrogen ion concentration fluctuations. Additionally, the ACDP for the facility mandates that only sub-bituminous coal be transferred at this facility.

Provided that adequate isolation, containment and spill contingency measures are implemented, the Department of Environmental Quality is reasonably assured that pH will not be further degraded in the Columbia River as a result of the project.

## 6.8 Temperature OAR 340-041-0028

(1) Background. Water temperatures affect the biological cycles of aquatic species and are a critical factor in maintaining and restoring healthy salmonid populations throughout the State. Water temperatures are influenced by solar radiation, stream shade, ambient air temperatures, channel morphology, groundwater inflows, and stream velocity, volume, and flow. Surface water temperatures may also be warmed by anthropogenic activities such as discharging heated water, changing stream width or depth, reducing stream shading, and water withdrawals.

## Evaluations and Findings Report - Coyote Island Terminal

(2) Policy. It is the policy of the Commission to protect aquatic ecosystems from adverse warming and cooling caused by anthropogenic activities. The Commission intends to minimize the risk to cold-water aquatic ecosystems from anthropogenic warming, to encourage the restoration and protection of critical aquatic habitat, and to control extremes in temperature fluctuations due to anthropogenic activities. The Commission recognizes that some of the State's waters will, in their natural condition, not provide optimal thermal conditions at all places and at all times that salmonid use occurs. Therefore, it is especially important to minimize additional warming due to anthropogenic sources. In addition, the Commission acknowledges that control technologies, best management practices and other measures to reduce anthropogenic warming are evolving and that the implementation to meet these criteria will be an iterative process. Finally, the Commission notes that it will reconsider beneficial use designations in the event that man-made obstructions or barriers to anadromous fish passage are removed and may justify a change to the beneficial use for that water body.

(3) Purpose. The purpose of the temperature criteria in this rule is to protect designated temperature-sensitive, beneficial uses, including specific salmonid life cycle stages in waters of the State.

(4) Biologically Based Numeric Criteria. Unless superseded by the natural conditions criteria described in section (8) of this rule, or by subsequently adopted site-specific criteria approved by EPA, the temperature criteria for State waters supporting salmonid fishes are as follows:

a) The seven-day-average maximum temperature of a stream identified as having salmon and steelhead spawning use on subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Tables 101B, and 121B, and Figures 130B, 151B, 160B, 170B, 220B, 230B, 271B, 286B, 300B, 310B, 320B, and 340B, may not exceed 13.0 degrees Celsius (55.4 degrees Fahrenheit) at the times indicated on these maps and tables;

### (11) Protecting Cold Water.

(a) Except as described in subsection (c) of this rule, waters of the State that have summer seven-day-average maximum ambient temperatures that are colder than the biologically based criteria in section (4) of this rule, may not be warmed by more than 0.3 degrees Celsius (0.5 degrees Fahrenheit) above the colder water ambient temperature. This provision applies to all sources taken together at the point of maximum impact where salmon, steelhead or bull trout are present.

(b) A point source that discharges into or above salmon & steelhead spawning waters that are colder than the spawning criterion, may not cause the water temperature in the spawning reach where the physical habitat for spawning exists during the time spawning through emergence use occurs, to increase more than the following amounts after complete mixing of the effluent with the river:

(A) If the rolling 60 day average maximum ambient water temperature, between the dates of spawning use as designated under subsection (4)(a) of this rule, is 10 to 12.8 degrees Celsius, the allowable increase is 0.5 degrees Celsius above the 60 day average; or

(B) If the rolling 60 day average maximum ambient water temperature, between the dates of spawning use as designated under subsection (4) (a) of this rule, is less than 10 degrees Celsius, the allowable increase is 1.0 degrees Celsius above the 60 day average, unless the source provides analysis showing that a greater increase will not significantly impact the survival of salmon or steelhead eggs or the timing of salmon or steelhead fry emergence from the gravels in downstream spawning reach.

(c) The cold water protection narrative criteria in subsection (a) do not apply if:

(A) There are no threatened or endangered salmonids currently inhabiting the water body;

(B) The water body has not been designated as critical habitat; and

(C) The colder water is not necessary to ensure that downstream temperatures achieve and maintain compliance with the applicable temperature criteria.

### (12) Implementation of the Temperature Criteria.

(a) Minimum Duties. There is no duty for anthropogenic sources to reduce heating of the waters of the State below their natural condition. Similarly, each anthropogenic point and nonpoint source is responsible only for controlling the thermal

## Evaluations and Findings Report - Coyote Island Terminal

effects of its own discharge or activity in accordance with its overall heat contribution. In no case may a source cause more warming than that allowed by the human use allowance provided in subsection (b) of this rule.

(b) Human Use Allowance. Insignificant additions of heat are authorized in waters that exceed the applicable temperature criteria as follows:

(A) Prior to the completion of a temperature TMDL or other cumulative effects analysis, no single NPDES point source that discharges into a temperature water quality limited water may cause the temperature of the water body to increase more than 0.3 degrees Celsius (0.5 Fahrenheit) above the applicable criteria after mixing with either twenty five (25) percent of the stream flow, or the temperature mixing zone, whichever is more restrictive; or

(B) Following a temperature TMDL or other cumulative effects analysis, waste load and load allocations will restrict all NPDES point sources and nonpoint sources to a cumulative increase of no greater than 0.3 degrees Celsius (0.5 Fahrenheit) above the applicable criteria after complete mixing in the water body, and at the point of maximum impact.

(C) Point sources must be in compliance with the additional mixing zone requirements set out in OAR 340-041-0053(2) (d).

(D) A point source in compliance with the temperature conditions of its NPDES permit is deemed in compliance with the applicable criteria.

(c) Air Temperature Exclusion. A water body that only exceeds the criteria set out in this rule when the exceedance is attributed to daily maximum air temperatures that exceed the 90th percentile value of annual maximum seven-day average maximum air temperatures calculated using at least 10 years of air temperature data, will not be listed on the section 303(d) list of impaired waters and sources will not be considered in violation of this rule.

(d) Low Flow Conditions. An exceedance of the biologically-based numeric criteria in section (4) of this rule, or an exceedance of the natural condition criteria in section (8) of this rule will not be considered a permit violation during stream flows that are less than the 7Q10 low flow condition for that water body.

\*\*\*\*

(13) Site-Specific Criteria. The Department may establish, by separate rulemaking, alternative site-specific criteria for all or a portion of a water body that fully protects the designated use.

(a) These site-specific criteria may be set on a seasonal basis as appropriate.

(b) The Department may use, but is not limited by the following considerations when calculating site-specific criteria:

(A) Stream flow;

(B) Riparian vegetation potential;

(C) Channel morphology modifications;

(D) Cold water tributaries and groundwater;

(E) Natural physical features and geology influencing stream temperatures; and

(F) Other relevant technical data.

(c) DEQ may consider the thermal benefit of increased flow when calculating the site-specific criteria.

(d) Once established and approved by EPA, the site-specific criteria will be the applicable criteria for the water bodies affected.

### 6.8.1 Application of standard for temperature

Oregon's water temperature standard was adopted by the EQC based on research regarding effects of

water temperature on salmonid productivity, modeling temperature effects of various activities, and identification of sensitive habitats.

Water quality criteria produced by national fishery experts, and provided by the federal Water Pollution Control Administration, recommended a maximum not-to-be exceeded temperature of 68°F (20°C) for salmonid growth and migration routes and 55.4°F (13°C) for salmonid spawning and egg development waters. Because of the number of trout and salmon waters that had been destroyed or made marginal or non-productive nationwide, it was further recommended that the remaining trout and salmon waters be protected. More specifically that inland trout streams and headwaters of salmon streams should not be warmed.

As temperatures increase above the optimal range, spawning and egg development becomes rapidly impaired, thus limiting reproduction. With increasing temperature, salmonids and trout experience sublethal effects of impaired feeding, decreased growth rates, reduced resistance to disease and parasites, increased sensitivity to toxics, intolerance with migration, reduced ability to compete with more temperature resistant species, and increased vulnerability to predation. If temperatures are high enough for sustained periods, mortality occurs. In addition, other water quality parameters (such as dissolved oxygen) may also be adversely affected by elevated temperatures. Based on the available information, the temperature standard was established with the primary intent of protecting the most temperature sensitive species occurring in the subject stream. It was recognized that natural temperatures may exceed the desirable upper limit for protection. However, the determination made in the adoption of the standard was that when temperatures are above the optimum established as the upper limit in the standard, discharges of waste or activities which cause a measurable increase should not be allowed.

The Department of Environmental Quality has traditionally applied the temperature standard to activities that cause a change in temperature as well as to discharges that cause a change in temperature. The intent is to protect the fishery values that the standard was adopted to protect. Thus, if natural temperatures are above the optimum specific to the waterbody, a point source discharge will not be approved if it will cause a 0.5°F (0.3°C) or more increase in temperature outside of a limited size "mixing zone" which is established in the waste discharge permit for the source. (The mixing zone size and shape is established to assure that beneficial uses are not impaired, including fishery uses.) Similarly, an activity or project that does not result in a discharge of waste but would cause a 0.5°F (0.3°C) or more increase in the temperature of the stream compared to the temperature that would exist without the activity or project would not be approved.

### **6.8.2 Present condition of temperature**

The Columbia River is listed on the 303(d) list as water quality limited for temperature. Modeling work on a temperature TMDL for the Columbia River and the Snake River from its mouth at the Columbia to its confluence with the Salmon River discloses that the major impacts to temperature occur as a result of impoundments behind dams, and with the confluence of the Snake River. For the numerous point sources along the river, their impact is *de minimis*.

The standard for streams designated as a salmon and steelhead migration corridor is that the seven-day average temperature does not exceed 20.0°C (68°F), as well as preserving cool water refugia areas that are sufficiently distributed to allow migration despite temperature impairments elsewhere in the stream.

### **6.8.3 Applicant's position on temperature**

Coyote Island Terminal will have no discharge of water to surface water or groundwater that would influence water temperature. Construction and operation of Coyote Island Terminal will have no adverse impact on water temperature and may actually cause shading from the dock facility, helping to reduce water temperatures.

Conclusion:

- No discharge of waste to surface water or groundwater from Coyote Island Terminal will occur.
- No impact to water temperature will occur.
- No impact to beneficial use will occur.
- There is no impact to water quality.

#### **6.8.4 Public comment on temperature**

No comments were received specific to temperature.

#### **6.8.5 The Department of Environmental Quality evaluation and finding on temperature**

Changes to temperature within the Columbia River as a result of the proposed project are expected to be *de minimis*. With the addition of permanent shading due to new overwater structures, there may be a slight reduction of stream temperatures. However, the size of the waterway likely negates these impacts.

It is unlikely that the duration and extent of the project action will create short-term or long-term changes in local temperature regimes.

The Department of Environmental Quality is reasonably assured that Temperature will not be degraded as a result of the proposed project.

## **6.9 Total dissolved gas OAR 340-041-0031**

(1) Waters will be free from dissolved gases, such as carbon dioxide hydrogen sulfide, or other gases, in sufficient quantities to cause objectionable odors or to be deleterious to fish or other aquatic life, navigation, recreation, or other reasonable uses made of such water.

(2) Except when stream flow exceeds the ten-year, seven-day average flood, the concentration of total dissolved gas relative to atmospheric pressure at the point of sample collection may not exceed 110 percent of saturation. However, in hatchery-receiving waters and other waters of less than two feet in depth, the concentration of total dissolved gas relative to atmospheric pressure at the point of sample collection may not exceed 105 percent of saturation.

#### **OAR 340-041-0104 water quality standards and policies specific to the main stem Columbia River**

(3) Total Dissolved Gas. The Commission may modify the total dissolved gas criteria in the Columbia River for the purpose of allowing increased spill for salmonid migration. The Commission must find that:

- (a) Failure to act would result in greater harm to salmonid stock survival through in-river migration than would occur by increased spill;
- (b) The modified total dissolved gas criteria associated with the increased spill provides a reasonable balance of the risk of impairment due to elevated total dissolved gas to both resident biological communities and other migrating fish and to migrating adult and juvenile salmonids when compared to other options for in-river migration of salmon;
- (c) Adequate data will exist to determine compliance with the standards; and

(d) Biological monitoring is occurring to document that the migratory salmonid and resident biological communities are being protected.

(e) The Commission will give public notice and notify all known interested parties and will make provision for opportunity to be heard and comment on the evidence presented by others, except that the Director may modify the total dissolved gas criteria for emergencies for a period not exceeding 48 hours;

(f) The Commission may, at its discretion, consider alternative modes of migration.

### **6.9.1 Application of standard for total dissolved gas**

Part (1) of this rule refers to noxious gases that sometimes result from putrescible substances in the water. Putrescible substances may be from discharged wastes or they may be from accumulations of naturally occurring organic debris settled in stream or reservoir bottoms. Such gases have two primary adverse properties when in excess concentrations:

1. Some can be directly toxic to aquatic life; and,
2. Others consume dissolved oxygen which may lead to indirect mortalities.

Part (2) of this rule involves the supersaturation of atmospheric gases in water which may cause either crippling or lethal gas bubbles to form in the tissues of fish. The standard, based on scientifically derived evidence, is designed to prohibit discharges or activities that will result in atmospheric gases reaching known harmful concentrations. The EPA and the American Fisheries Society have identified six ways that total dissolved gas supersaturation can occur:

1. Excessive biological activity--dissolved oxygen concentrations often reach supersaturation because of excessive algal photosynthesis. Gas bubble disease in fishes results, in part, from algal blooms. Algal blooms often accompany an increase in water temperature and this higher temperature further contributes to supersaturation.
2. Water spillage at hydropower dams causes supersaturation. When excess water is spilled over the face of a dam, it entrains air as it plunges to the stilling or plunge pool at the base of the dam. The momentum of the fall carries the water and entrained gases to great depths in the pool; and, under increased hydrostatic pressure, the entrained gases are driven into solution, causing supersaturation of dissolved gases.
3. Natural waterfalls with deep plunge basins can cause supersaturation and subsequent adverse effects to fish.
4. The use of air in turbine intakes to avoid cavitation creates supersaturation--a condition that can be avoided if identified.
5. Improper engineering of hatchery water supplies can cause Venturi action.
6. Gas bubble disease may be induced by discharges from power-generating and other thermal sources. Cool, gas-saturated water is heated as it passes through the condenser or heat exchanger. As the temperature of the water rises, percent saturation increases because of the reduced solubility of gases at high temperatures. Thus, the discharged water becomes supersaturated with gases and fish or other organisms living in the heated water may exhibit gas bubble disease.

### **6.9.2 Present Condition of total dissolved gas**

The Columbia River is impaired for the parameter of Total Dissolved Gas (TDG) from river mile 0 to 303.9 due to operations of multiple hydroelectric dams on the river. The Department of Environmental Quality has developed a TMDL for the parameter of Total Dissolved Gas which has been approved by EPA and is implemented through management plans at the dams.

### **6.9.3 Applicant's position on total dissolved gas**

Coyote Island Terminal will have no discharge of water to surface water or groundwater that would violate the standards for TDG. The only potential discharge to surface water is the existing sediments that could be disturbed during installation and removal of piles during the construction phase of the project. Phase 1 ESA was conducted for the site and no recognizable environmental concerns were found that would indicate that any constituents that could result in a consumption of dissolved oxygen would be present in the sediments at the site.

Conclusion:

- No discharge of waste to surface water or groundwater from Coyote Island Terminal will occur.
- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal and localized.
- No sources of gas containing constituents were identified in the Phase 1 ESA that could be present in sediments at the site.
- There is no impact to water quality.

### **6.9.4 Public Comment on Total Dissolved Gas**

No comments were received specific to total dissolved gas.

### **6.9.5 The Department of Environmental Quality Evaluation and Finding on Total Dissolved Gas**

Sources of impairment of Total Dissolved Gas are unlikely in the project areas and activities proposed are not anticipated to introduce any sources.

The Department of Environmental Quality is reasonably assured that Total Dissolved Gas will not be degraded as a result of the proposed project.

## **6.10 Total dissolved solids OAR 340-041-0032**

Total Dissolved Solids: The concentrations listed in the basin specific criteria found in OAR 340-041-0101 through 340-041-0350, may not be exceeded unless otherwise specifically authorized by DEQ upon such conditions as it may deem necessary.

340-041-0104

Water Quality Standards and Policies Specific to the Main Stem Columbia River

(2) Total Dissolved Solids. Guide concentrations listed below must not be exceeded unless otherwise specifically authorized by DEQ upon such conditions as it may deem necessary to carry out the general intent of this plan and to protect the beneficial uses set forth in OAR 340-041-0101:

(b) All other river miles of main stem Columbia River -- 500.0 mg/l.

### **6.10.1 Application of total dissolved solids standard**

Certain dissolved chemicals in water are known to be toxic to aquatic life and antagonistic to higher animals when present in drinking water at low concentrations. Maximum allowable concentrations of the known toxic or offensive substances have been incorporated in standards for the protection of both aquatic and human life.

Water quality may also be affected by a number of other substances (e.g., calcium, sodium, phosphorus, iron, etc.) that may be undesirable either individually or collectively to domestic, industrial, or agricultural uses when present in high concentrations. A measurement of their collective concentration in water is specific conductance, which can be used as a surrogate for total dissolved solids.

### **6.10.2 Present condition of total dissolved solids**

The Columbia River is not listed as impaired for the parameter of Total Dissolved Solids; however, multiple parameters that could be related to Total Dissolved Solids are listed as impaired or with potential concern for impairment, including Dioxin and PCBs.

### **6.10.3 Applicant's position on total dissolved solids**

Coyote Island Terminal will have no discharge of water to surface water or groundwater that would violate the standards for TDG. The only potential discharge to surface water is the existing sediments that could be disturbed during installation and removal of piles during the construction phase of the project. Phase 1 ESA was conducted for the site and no recognizable environmental concerns were found that would indicate that any organic or inorganic constituents that do not occur naturally would be present in the sediments at the site. If TDS are released in the sediment disturbance that occurs during pile driving and removal, the amount would be minimal, resulting in a de minimis effect, and would have no measurable impact on the established criterion.

#### **Conclusion:**

- No discharge of waste to surface water or groundwater from Coyote Island Terminal will occur.
- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal and localized.
- No sources of organic or inorganic constituents that do not occur naturally occur in the sediments were identified in the Phase 1 ESA.
- There is no impact to water quality.

### **6.10.4 Public comment on total dissolved solids**

No comments were received specific to total dissolved solids.

### **6.10.5 The Department of Environmental Quality evaluation and finding on total dissolved solids**

The potential for increases in levels of Total Dissolved Solids could arise as a result of disturbance of contaminated sediment, or accidental spills of mechanical fluids. While accidental spills of fluids from mechanical equipment is a risk with any construction near, over or in water, appropriate measures for spill prevention, equipment inspection and maintenance, containment and cleanup to minimize impacts to the water quality are required conditions in the 401 Water Quality Certification and there is no indication of contaminated sediment in the project area.

Provided the applicant complies with the Water Quality Certification conditions; the Department of Environmental Quality is reasonably assured the proposed activities are unlikely to cause impairment or improvement to the parameter of Total Dissolved Solids in the Columbia River.

## 6.11 Toxic substances OAR 340-041-0033

(1) Toxic substances may not be introduced above natural background levels in waters of the state in amounts, concentrations, or combinations that may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare or aquatic life, wildlife, or other designated beneficial uses.

(2) Levels of toxic substances in waters of the state may not exceed the applicable criteria listed in Tables 20, 33A, and 33B. Tables 33A and 33B, adopted on May 20, 2004, update Table 20 as described in this section.

(a) Each value for criteria in Table 20 is effective until the corresponding value in Tables 33A or 33B becomes effective.

(A) Each value in Table 33A is effective on February 15, 2005, unless EPA has disapproved the value before that date. If a value is subsequently disapproved, any corresponding value in Table 20 becomes effective immediately. Values that are the same in Tables 20 and 33A remain in effect.

(B) Each value in Table 33B is effective upon EPA approval.

(b) The department will note the effective date for each value in Tables 20, 33A, and 33B as described in this section.

(3) To establish permit or other regulatory limits for toxic substances for which criteria are not included in Tables 20, 33A, or 33B, the department may use the guidance values in Table 33C, public health advisories, and other published scientific literature. The department may also require or conduct bio-assessment studies to monitor the toxicity to aquatic life of complex effluents, other suspected discharges, or chemical substances without numeric criteria.

### 6.11.1 Application of toxic substances standard

This standard provides protection for humans, wildlife, and aquatic life from adverse effects resulting from the presence of toxic substances above natural levels, either alone or in combination with other chemicals or substances.

### 6.11.2 Present condition of toxic substances

The Columbia River is classified as water quality limited under the Clean Water Act, Section 303(d), for the toxics parameters of PCB and mercury. An EPA approved Total Maximum Daily Load (TMDL) has been developed for the toxics parameter of Dioxin. In correspondence with the Department of Environmental Quality's clean-up program, there are no known clean-up sites close to the project sites. There are several clean-up sites in the general vicinity, but all are 0.9 miles or more from the project site.

### 6.11.3 Applicant's position on toxic substances

Coyote Island Terminal will have no discharge of water to surface water or groundwater that would violate the standards for toxic substances. The only potential discharge to surface water is the existing sediments that could be disturbed during installation and removal of piles during the construction phase of the project. A Phase 1 ESA was conducted for the site and no recognizable environmental concerns were found that would indicate that any that any toxic substances would be present in the sediments near the site.

#### Conclusion:

- No discharge of waste to surface water or groundwater from Coyote Island Terminal will occur.

- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal and localized.
- No sources of toxic substances that could be present in the sediments were identified in the Phase 1 ESA.
- There is no impact to water quality.

#### **6.11.4 Public comment on toxic substances**

One commenter is concerned about toxic substances in the sediment in which the pile driving will occur. Another comment is that DEQ fails to address fugitive coal dust and spillage from coal conveyors and barge-loading. Another commenter is concerned with the potential for lead, nickel, tin, cadmium, mercury, antimony, and arsenic to enter the waterway through coal deposition. Another comment is concerned about the amount of PAH that could bioaccumulate due to coal in the river sediment. Additionally the commenter is concerned that the existence of coal in water would create toxic conditions for fish and effect palatability.

#### **6.11.5 The Department of Environmental Quality evaluation and finding on toxic substances**

Storing, fueling, maintaining, and operation of heavy mechanized equipment in or near waters of the state are widely recognized as having the potential to release harmful toxic substances to those waters. The 401 Water Quality Certification requires that vehicles must be fueled, operated, maintained, and construction materials stored in areas to prevent potential discharges. Also, the 401 Water Quality Certification requires a 150 foot buffer between waters of the state and vehicle staging and maintenance areas. A condition of the Water Quality Certification requires that all equipment operated below the ordinary high water elevation mark must use bio-degradable fluid.

Under the Water Quality Certification, hazardous materials must be properly stored and disposed of at upland locations. Any contaminated soils must be properly disposed. The Applicant must coordinate with the Department of Environmental Quality's Solid Waste Program for proper disposal. Coordination with the Department of Environmental Quality's cleanup program is required for work that may disturb any cleanup sites listed in the ESCI database. Toxic materials and spills containment protocols and other best management practices are also required.

Pile driving is not anticipated to release toxic substances; results from nearby sediment testing at the Port of Morrow showed mainly coarse grained sediments. Typically pollutants sorb onto fine-grained sediments such as silt and clay. Coal and coal dust are not permitted to enter the Columbia River, or any other waters of the state. Additionally, once the coal enters the facility, it will remain covered, preventing spillage from coal-conveyors and barge loading.

Provided the Applicant adheres to the Water Quality Certification conditions as described above, the Department of Environmental Quality is reasonably assured the project will comply with the toxics standard.

## **6.12 Turbidity OAR 340-041-0036**

Turbidity (Nephelometric Turbidity Units, NTU): No more than a ten percent cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities and which cause the standard to be exceeded may be authorized provided all

practicable turbidity control techniques have been applied and one of the following has been granted:

\*\*\*\*

- (2) Dredging, Construction or other Legitimate Activities: Permit or certification authorized under terms of section 401 or 404 (Permits and Licenses, Federal Water Pollution Control Act) or OAR 141-085-0100 et seq. (Removal and Fill Permits, Division of State Lands), with limitations and conditions governing the activity set forth in the permit or certificate.

### **6.12.1 Application of turbidity standard**

Turbidity is a measure of the optical properties of water. Turbidity results from particulate and dissolved phase matter being held in suspension which increases scattering and absorption of light rather than its transmittance along straight lines. The turbidity standard is designed to minimize the addition of soil particles or any other suspended substances that would cause significant increases in the river's normal, seasonal turbidity pattern.

Elevated turbidity can occur for varying durations and at varying intensities depending on a combination of several factors, including: substrate composition; stream flow; stream gradient; depth, magnitude, duration, and speed of disturbance; seasonal timing; and efficacy of turbidity control measures. Discharge of uncontrolled stormwater runoff or construction process wastewater can also increase turbidity, in both the periodic and chronic timescale.

Oregon's turbidity standard is set at no more than a ten percent cumulative increase in natural stream turbidities. If the turbidity of the river is at 50 NTUs, Oregon's standard would be violated with a turbidity reading above 55 NTUs.

### **6.12.2 Present condition of turbidity**

The Columbia River is a large system, fed by multiple major and minor tributaries, which flows through areas with land use practices varying from rural areas to intensive agricultural use to industrial uses. As a result of these various land use practices, both point source discharges and non-point source runoff discharges to the Columbia River and its tributaries, thus, turbidity in the system is widely variable and typically higher during winter high flow conditions.

### **6.12.3 Applicant's position on turbidity**

During construction of the dock and conveyor, there is the potential for a temporary, localized increase in turbidity from sediments that could be disturbed during installation and removal of piles. It is not anticipated that the turbidity level will increase to more than 10 percent over that of the natural stream, and any increase in turbidity will only affect the immediate vicinity of the construction activity. To avoid increased turbidity being released into the stream, the following BMPs will occur during construction: Sediment fencing will be placed around the perimeter of the upland excavation area; turbidity monitoring will be conducted throughout the installation and removal of piles, and BMPs will need to be adjusted or work will need to stop if the turbidity level exceeds the Department of Environmental Quality requirements.

Conclusion:

- No discharge of waste to surface water or groundwater from Coyote Island Terminal will occur.

- Temporary sediment disturbance resulting from pile driving and removal during the construction phase will be minimal and localized.
- Temporary turbidity is not anticipated to exceed a 10 percent increase of the natural stream turbidity in the project vicinity per state requirements.
- There is no impact to water quality.

#### **6.12.4 Public comment on turbidity**

One commenter is concerned with the presence of coal in water increasing TSS. The commenter states that the abrasiveness of coal can damage animals and plants in the water, and clog respiratory and feeding organs.

#### **6.12.5 The Department of Environmental Quality evaluation and findings on turbidity**

Coal and coal dust are not permitted to enter the Columbia River or any other waters of the state; therefore, it is not anticipated that there will be damage to animals and plants. Generally, given the coarseness and lack of fines present in the bed of the Columbia River, turbidity impacts due to pile driving and removal of temporary piles are expected to be localized and limited in duration. However, in-water work proposed by the project may result in turbidity to the Columbia River that exceeds the applicable water quality standard for turbidity. The applicant will be required to regularly monitor for turbidity, and adjust BMPs if there is an increase in turbidity.

Preliminary post-construction stormwater management plans call for bioswales which will have the capacity for full infiltration and therefore, no stormwater discharge will leave the site. Long-term operation and maintenance of stormwater treatment facilities will be the responsibility of the Applicant. Any discharge of construction related stormwater must comply with BMPs to prevent turbid discharges required in the NPDES 1200-C permit.

Provided turbidity control measures, monitoring, and the post-construction stormwater management plan are implemented, the Department of Environmental Quality is reasonably assured that turbidity will not be exceeded.

## **7. Evaluation of water quality-related requirements of state law**

The Department of Environmental Quality has reviewed the information in the record and the requirements of the Oregon state laws to determine the water quality-related requirements that may be applicable to the applicant's proposed project. In determining whether particular requirements may be water quality-related, the Department of Environmental Quality has relied on the following considerations:

- a. The statute or rules promulgated pursuant to the statute, contain explicit reference to water quality and are applicable to the proposed project.
- b. The statute or rules promulgated pursuant to the statute, address factors that are necessary for

maintenance of water quality in conjunction with the proposed project, or for evaluation of water quality impacts of the proposed project.

- c. The statute or rules promulgated pursuant to the statute, authorize, require, or control actions or activities that may, in conjunction with the proposed project, be reasonably expected to impact water quality.

Based on these initial criteria, the Department of Environmental Quality has identified the following as potential water quality-related requirements of state law:

### **7.1 Laws administered by the Oregon Department of State Lands**

ORS 196.795 to 196.990 requires that permits be obtained from the Department of State Lands prior to any fill and removal of material from the bed or banks of any stream. Such permits, when issued, may be expected to contain conditions to assure protection of water quality so as to protect fish and aquatic habitat.

### **7.2 Laws administered by Oregon Department of Fish and Wildlife**

ORS 496.012 sets wildlife policy for prevention of depletion of indigenous species and toward wildlife resource decisions to be made in the best social, economical and recreational interests of all user groups

ORS 496.164 provides for cooperation and technical assistance to other agencies with regard to wildlife resource management

ORS 496.170 to 496.192 requires collection and analysis of scientific data to determine and inventory biological status of species, develop conservation strategies, and provide recommendations to other agencies regarding actions affecting threatened or endangered species

OAR 635-007-0502 et. seq. native fish conservation policy ó protection of natural ecological communities and habitats tailored to individual watersheds and situations

OAR 635-059-0000 et. seq. aquatic invasive species control

OAR 635-100-0150 requires consultation with ODFW on affects to endangered species

OAR 635-410-0000 natural resource losses

OAR 635-412-0005 et. seq. addresses fish passage

OAR 635-413-0000 et. seq. fish habitat mitigation policy

OAR 635-500-0002 et. seq. addresses fish management plans

### **7.3 Laws administered by Department of Environmental Quality**

ORS 466.635 to 466.645 requirements for reporting and cleanup of spills of petroleum products and hazardous materials

### **7.4 Laws administered by Department of Land Conservation and Development**

Oregon has a comprehensive system of statewide land use planning requirements. These are based on state statutes and administrative rules adopted by the Land Conservation and Development Commission under ORS chapter 197. The rules include substantive and procedural requirements known as Statewide Goals and also implementing rules for the Goals and other statutes. Statewide Goals are implemented through comprehensive land use plans and regulations adopted by local governments and through state agency decisions when those decisions have the potential to affect land use. Under ORS 197.180, state agencies are required to make decisions in programs affecting land use that comply with Statewide Goals and that are compatible with those local land use plans and regulations that have been determined to comply with the Goals. Plans and regulations that comply with the Goals are referred to as "acknowledged."

The Department of Environmental Quality's section 401 program is a program affecting land use for purposes of ORS 197.180. OAR 340-018-0030. Goals designed to protect water resources and implementing local comprehensive plan and regulations relating to those Goals are "other appropriate requirements of State law" for purpose of Clean Water Act Section 401(d). *Arnold Irrigation Dist. v. DEQ*, (79 Or. App. 136, rev. den, 301 Or. 756 (1986)). Goals that are water quality related include Goals 5, 6 and 16.

In addition, the Department of Environmental Quality's rules governing applications for Section 401 certificates require applicants to supply a land use compatibility statement (LUCS) from the affected local government or in the alternative to identify the specific provisions of the acknowledged local land use plans and implementing regulations that are applicable to the activity at issue. The applicant must further discuss whether the local provisions have any direct or indirect relationship to water quality. OAR 340-048-0015(i).

The Applicant provided a signed statement from the Morrow County Planning Director that the "project is consistent with the comprehensive plan and land use regulations."

### **7.5 Laws administered by Oregon Watershed Enhancement Board**

ORS 541-351 et. seq. Oregon Plan for Salmon and Watersheds

### **7.6 Laws administered by Oregon Water Resources Department**

### **7.7 Summary**

Pursuant to 33 USC 1341(d) and OAR 340-048-0025, the Department of Environmental Quality has included conditions in the 401 Water Quality Certification that are expected to be consistent with these other requirements of state law. However, issuance of a 401 Water Quality Certification does not obviate the need for any applicable permits, licenses, or other permissions required by local, state, or federal laws as interpreted by the agency charged with implementing the laws.

## **8. Evaluation of compliance with sections 301, 302, 303, 306, and 307 of the clean water act**

In order to certify a project pursuant to Section 401 of the federal Clean Water Act, the Department of Environmental Quality must find that the project complies with Sections 301, 302, 303, 306, and 307 of the Act and state regulations adopted to implement these sections, provided appropriate permits are obtained as required.

Sections 301, 302, 306, and 307 of the federal Clean Water Act deal with effluent limitations, water quality related effluent limitations, national standards of performance for new sources, and toxic and pretreatment standards. All of these requirements relate to point source discharges and are the foundation for conditions to be incorporated in NPDES permits issued to the point sources. In this case, the Department of Environmental Quality has incorporated such conditions into the 401 Water Quality Certification.

Section 303 of the Clean Water Act relates to Water Quality Standards and Implementation Plans. The EPA has adopted regulations to implement Section 303 of the Act. The EQC has adopted water quality standards consistent with the requirements of Section 303 and the applicable EPA rules. The EQC standards are codified in Oregon Administrative Rules Chapter 340, Division 41. The EPA has approved the Oregon standards pursuant to the requirements of Section 303 of the Clean Water Act. Therefore, the applicant's project must comply with Oregon Water Quality Standards and TMDLs to qualify for certification. The Water Quality Standards Section of this Evaluation Report and Findings detailed the considerations necessary for the Department of Environmental Quality to include in the 401 Water Quality Certification decision as conditions in order to ensure compliance with water quality standards, TMDLs, and other policies.

### **8.1 Finding**

The Department of Environmental Quality is reasonably assured that conducting the proposed project as described in the application will comply with Sections 301, 302, 303, 304, 306, and 307 of the Clean Water Act if the Applicant meets the conditions provided in the certification for this project.

## **9. Conclusions and proposed certification decision**

As described in the findings and evaluations above, the Department of Environmental Quality can issue a conditional 401 Water Quality Certification that water quality standards and policies will be met and beneficial uses they support will be protected, provided the Applicant and its contractors apply all required management practices and control measures and otherwise comply with all conditions of the 401 Water Quality Certification.