Memorandum to the Blue Ribbon Panel on Ocean Acidification
From: Ryan Kelly, Stanford University Center for Ocean Solutions
Date: April 25, 2012
Re: Summary of the Center for Biological Diversity Litigation and Related Activities[1]

I. Litigation Over Washington's List of Impaired Waters

The Center for Biological Diversity (CBD), a nonprofit conservation organization, began in 2007 to request that coastal states declare their ocean waters as impaired under the federal Clean Water Act because of carbon dioxide emissions affecting the acidity of the ocean. CBD requested that Washington—along with the other coastal Pacific states—list its ocean waters as "impaired" due to pH. This designation would have required the state to include its territorial marine waters on its list of impaired waters under section 303(d) of the federal Clean Water Act,[2] triggering enhanced protection measures. In support of this request, CBD submitted numerous studies and documents that they believed substantiated claims that the pH of ocean waters was being impaired due to ocean acidification.

The Washington Department of Ecology (Ecology) conducted a review of data for the 2008 Water Quality Assessment for Washington waters. CBD submitted a request[3] that Ecology list all state marine waters on the 303(d) for pH impairments due to ocean acidification, and included documentation. Upon review, Ecology determined[4] that the studies submitted as evidence did not include actual data and monitoring locations specific to Washington, and instead focused on worldwide and historical trends. Ecology therefore denied CBD's request to list Washington's coastal waters as impaired on the 2008 303(d) list, citing credible data laws[5] and 303(d) listing policies in place for Washington.

On May 14, 2009, CBD sued the federal Environmental Protection Agency (EPA) for certifying Washington State's 2008 list of impaired state waters.[6] CBD's complaint alleged that, because Washington had failed to list coastal ocean waters as impaired for pH (i.e., the waters were more acidic than was permissible, as a consequence of human-generated pollution), the EPA had violated the Clean Water Act (CWA) by approving the state's list.[7]

The parties settled, with EPA agreeing to a public process for determining how ocean acidification should be addressed under CWA's 303(d) and to make such a determination by November 15, 2010. On that date, EPA consequently published a Federal Register notice, accepted public comment,[8] and determined that waters impaired by ocean acidification should

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[1] The author would like to acknowledge the very helpful assistance and contributions of Susan Braley (Washington Department of Ecology) and Miyoko Sakashita (Center for Biological Diversity) in compiling this summary.
[2] Codified at 33 U.S.C. § 1313(d).
[3] http://www.ecy.wa.gov/programs/wq/303d/2008/commentsresponses/37-sakashita.pdf
[4] http://www.ecy.wa.gov/programs/wq/303d/2008/commentsresponses/37-EcyResp.pdf
[5] RCW 90.48.570 to 90.48.585.
[6] Under §303(d) of the Clean Water Act, states must list waters within their jurisdictions that fail to meet the state's adopted water quality standards.
[7] Previously, CBD had petitioned Washington, as well as 15 other states and territories, to list ocean waters impaired for pH and to revise the relevant water quality criteria. For example, CBD asked California's North Coast Water Quality Control Board to list the ocean waters under its jurisdiction as impaired for pH on Feb. 27, 2007. CBD reports that as of Dec. 14, 2009, it had petitioned all coastal states and territories to list relevant impaired waters. http://www.biologicaldiversity.org/campaigns/endangered_oceans/action_timeline.html (last visited, Apr. 9, 2012).
[8] 75 Fed. Reg. 13537 (Mar. 22, 2010).

be identified on the list required by section 303(d).[9] That Memorandum "recognizes the seriousness of aquatic life impacts associated with [ocean acidification]," and highlights existing opportunities for states to report waters impaired for marine pH. While thus expressly approving of 303(d) listings for pH, the document simultaneously cites the lack of data supporting such listings for most states.

In sum, the CBD lawsuit increased the visibility of ocean acidification as an emerging issue of coastal and environmental law, and prompted increased interest in monitoring for data states may use to identify waters impaired for pH. However, no state has yet listed its marine waters as impaired for pH.

II. The Present Status of Washington's Impaired Waters List, and "Waters of Concern."

In 2010, Ecology conducted another assessment of Washington's marine waters. Again, CBD requested Ecology list all coastal waters as impaired for pH and habitat impacts, and submitted documentation in support, and again, Ecology determined[10] that the available evidence did not support listing the state's marine waters as impaired for pH. However, Ecology did find that several current water quality studies in Puget Sound provided enough evidence to list Puget Sound as "waters of concern" (Category 2) based on potential impacts to fish and shellfish habitat from human actions, including climate change, urbanization, and ocean acidification.[11] This category reflects a lower degree of priority than "impaired," and does not trigger the development of Total Maximum Daily Loads or other Clean Water Act requirements that an impairment listing does.[12] In response to this decision, CBD subsequently submitted a comment[13] on Washington State's 2010 candidate §303(d) list, urging EPA to partially disapprove that list, which again did not list any of the State's marine waters as impaired for pH. EPA is presently reviewing Ecology's 2010 Assessment and candidate 303(d) list, and will render a decision when their review is completed.

III. Federal Water Quality Criterion for pH

In a separate but related matter, CBD had earlier petitioned EPA to revise the federal water quality criterion for pH in coastal marine waters,[14] creating more stringent standards that would help to address the causes of ocean acidification. The existing criterion includes a provision that waters should not vary by more than 0.2 pH units "outside the normally occurring range," and should not exceed an outer limit of pH 6.5 to 8.5.[15] In settlement of a notice of intent

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[9] EPA, Integrated Reporting and Listing Decisions Related to Ocean Acidification, Memorandum from Denise Keehner (Nov. 15, 2010).

[10] http://www.ecy.wa.gov/programs/wq/303d/2010/2010WQA-ResptoComments122311.pdf, at 41-43. Note, however, that Ecology's Susan Braley indicated that Ecology will be updating its response to CBD in the near future, to better address some subsequent comments.

[11] http://www.ecy.wa.gov/pubs/1001006.pdf.

[12] Ecology believes Category 2 is appropriate because it applies when some credible data create concerns of possible impact to designated uses, but fall short of demonstrating that there is a persistent problem from human sources.

[13] Miyoko Sakashita, Center for Biological Diversity, Comment on Washington's 2010 Marine Water Quality Assessment (Jan. 12, 2012).

[14] These water quality criteria are grounded in §304 of the Clean Water Act, 33 U.S.C. § 1314. CBD petitioned for this change on December 17, 2007.

[15] Federal criteria available at: http://water.epa.gov/scitech/swguidance/standards/current/index.cfm (last visited Apr. 24, 2012). Many states, including Washington, have adopted these federally recommended criteria (or similar criteria) into their water quality standards. See WAC 173-201A-210(g) (the pH value of Washington State waters of

to sue from CBD for not responding to the petition, EPA solicited scientific input on the proposed change by publishing a Notice of Data Availability in the Federal Register.[16] The Agency subsequently declined to change the existing marine pH standard, citing insufficient data to support such a change, especially in light of the large natural pH fluctuations known from some coastal environments.[17]

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extraordinary quality "must be within the range of 7.0 to 8.5 with a human-caused variation within the above range of less than 0.2 units.")

[16] 74 Fed. Reg. 17484 (Apr. 15, 2009). The EPA received twenty substantive responses providing technical input. EPA Memorandum Detailing EPA Decision on Re-evaluation and/or Revision of the Water Quality Criterion for Marine pH for the Protection of Aquatic Life (April 15, 2010).

[17] EPA Memorandum Detailing EPA Decision on Re-evaluation and/or Revision of the Water Quality Criterion for Marine pH for the Protection of Aquatic Life (April 15, 2010).