

From: [Linda D. Dykema](#)
To: [Great Lakes \(CDC\)](#);
Subject: Comments on Revised AOC Report
Date: Wednesday, June 25, 2008 10:44:37 AM
Attachments: [MDCH Comments on the Revised AOC.pdf](#)

Attached please find the Michigan Department of Community Health, Toxicology and Response Section comments on the Draft Report ''Selected Information on Chemical Releases Within Great Lakes Counties Containing Areas of Concern (AOC) (Public Comment Draft 2008)''.

Thank you

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STATE OF MICHIGAN

DEPARTMENT OF COMMUNITY HEALTH
LANSING

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June 25, 2008

Division of Toxicology and Environmental Medicine
Agency for Toxic Substances and Disease Registry

To Whom It May Concern:

The Michigan Department of Community Health (MDCH), Toxicology and Response Section would like to thank the Agency for Toxic Substances and Disease Registry (ATSDR) for the opportunity to provide comments on the Draft Report "Selected Information on Chemical Releases within Great Lakes Counties Containing Areas of Concern (AOC) (Public Comment Draft 2008)." We recognize that the draft document represents considerable investment in staff time and resources, and that the current draft is much improved over the 2007 version. However, we are concerned that the draft document continues to present an incomplete and sometimes inaccurate depiction of chemical contamination in the Great Lakes Areas of Concern.

Our general comments are provided below. More detailed comments on individual sections of the report are provided in the attachments.

1. We are concerned that site-specific data provided in the draft document is sometimes outdated and may provide faulty information to the public. MDCH encourages ATSDR to fully examine the most current information for each site discussed rather than rely on outdated ATSDR generated reports that may not reflect current site conditions.
2. ATSDR should state whether or not the report fulfills the request from the International Joint Commission and list how the report may be useful and to whom.
3. The word "selected" in the title of the Report may cause some to think that the report is incomplete and that ATSDR is intentionally withholding information that may be of interest and value. MDCH suggests simply deleting the word "selected."
4. There are inconsistencies in formatting, grammar, and acronym use throughout the draft document. For example:
 - a. "EPA" vs. "USEPA"
 - b. "Data" is a plural noun and requires an appropriate verb.
 - c. Discussion of individual hazardous waste sites uses both past and present tense, making it unclear if the contamination still exists at concentrations of concern or at all.
 - d. Formatting of margin and indentation alignments is inconsistent
 - e. MDCH is aware that many people put forth effort in assembling this report. However, the language use between authors differs and can cause the reader some confusion.

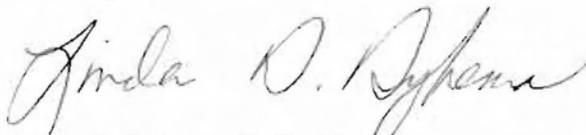
Specific instances of these problems are noted in the attached comments. We recommend that ATSDR conduct a full editorial review to resolve these issues.

5. ATSDR should provide a list of abbreviations near the beginning of the document.

6. ATSDR should standardize section headings in each site-specific discussion. For example, some site discussions provide demographic and/or public health outcome data (HOD) and some do not. If no HOD were used in the evaluation of the site, the heading should still be included with a statement of why no HOD data are available. In addition, the HOD discussions should be internally consistent. Some HOD information provided actually relates to exposure rather than health effects.
7. MDCH suggests that it may be more helpful to provide direct links to site-specific information rather than the generic National Priority List (NPL) webpage. This is especially true if the site name used in the report differs from that used by the USEPA. Also, some of the links in the Report begin with www.usepa.gov/... whereas the correct URL should begin with "www.epa.gov/..."
8. Many sites can have more than one Hazard Category after a single assessment addressing multiple environmental media. It would be helpful to show all the hazards determined for a site for each document and discuss these more fully in the text.
9. All known sites of contamination in the Areas of Concern should be discussed in the report, regardless of ATSDR's involvement at the site. This would impress upon the public and policy makers that a very real chemical threat to the environment and public health still exists and may shift legislative priorities to prevention, compliance, and cleanup.

Thank you again for the opportunity to provide comments to the ATSDR. Please contact me if you have concerns or need clarification of our comments.

Sincerely,



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Attachments

Attachment I

Comments on Revised AOC Report “Selected Information on Chemical Releases within Great Lakes Counties Containing Areas of Concern (AOC)” (2008 public-comment release)

Christina Rose Bush
Jennifer Gray
Linda D. Dykema

“Improving the Science in the Draft Report” paper

1. In the first paragraph, the IJC request is quoted. The request is also quoted in Chapter 7 of the AOC report, in the first paragraph under “Conclusions” (Section 7.1), but with additional verbiage. This additional verbiage should also be in the “Improving the Science...” paper. The request is paraphrased in the Executive Summary (page vi) of the AOC report. If the request was ever formalized in writing, then the written version should be added as an appendix to the AOC report.
2. Pg 1 paragraph 1, line 8 – Selected information? What information is being left out and why?
3. In the second paragraph, it is stated that the 2007 draft became public “before ATSDR had finished reviewing and finalizing it.” MDCH was on a conference call with ATSDR and other AOC-containing Great Lakes states in July 2007 and was of the understanding that ATSDR felt ready to release the report. During the July 2007 conference call, MDCH and others stated their concerns that the report was flawed and would not be helpful to the public and that the media would present the report’s conclusions in an alarmist way. Therefore, the statement quoted above should be rephrased to more accurately depict ATSDR’s decision-making process.
4. Footnote 1 of this paper has a typographical error on the second line: “LaSee” should read ‘Lakes.’ See....’
5. Pg 2, bullet point 3: “Both Chapters 1 and 7 present more and better information on the strengths and limitations of the compilation.” – More and better information is very awkward and it is used multiple times.
6. On page 3, the HAZDAT dataset is mentioned for the first time. Many readers will not understand what this dataset is.
7. Pg 3, solid bullet point 3: not relevant environmental data – Beach closings, Should Beach Advisories still be included if it isn’t bacterial?
8. Pg 4 bullet point 3: Change to - Many, if not most, of the indicators in the Community Health...
9. On page 5, second paragraph, the heading “Scientific review:” should be bolded.

Table of Contents and Executive Summary

1. There should be an abbreviations and acronyms list. At the very least, or additionally, there should be a short acronym list before the discussion of each site, for the acronyms used in that specific discussion. Most readers will know what is meant by PCBs, but will not understand PRPs, RI/FS, VOCs, SVE systems, and the like. Another alternative is to be sure each acronym is defined the first time it is used in *each* hazardous waste site discussion.
2. In the Preface, page iii, the last complete paragraph, the word “residua” should be “residues.” (If “residua” is considered a word, it is not common.)
3. Preface, Pg iii, second paragraph: Change “have found their way into the air, water, land, and biota, and even into people’s bodies.” (people are biota) To ‘have found their way into the air, water, land, and biota, including people who live in and visit these areas.’
4. Preface, Pg iii, second paragraph: present status of cleanup is included in the report?
5. Preface, Pg iii, fifth paragraph: mention 4 kinds of data, please describe or remove
6. Preface, Pg iii, fifth paragraph: mention that environmental data only provides a partial picture, describe why
7. Preface, page iii, the next to the last line of the page, omit the word “not.”
8. Preface, page iv, first line, the term “held up” should be replaced with “stopped.” (“Delayed” should not be used.)
 - a. change to ‘stopped release of the report to correct deficiencies.’
9. Preface, page iv, first full paragraph, change “misinterpreted,” which puts blame on the reader, to “interpreted.” Also, add the following to the sentence that closes this paragraph: “...during the revision of the 2007 draft report.”
 - a. “Several important points became clear” during what?
10. Preface, page iv, paragraph starting “First...”, the sentence “All of us...believe in wholesome, healthy [delete comma after ‘healthy’] environments, and believe that accurate, timely information will help us get there” implies that our environments are neither wholesome nor healthy. I would suggest stopping the sentence after “environments” and deleting the rest of it.
 - a. Dislike phrasing, makes it sound like most people are not concerned with these things: “That shared concern is a precious resource.”
11. Preface, Pg iv, fourth paragraph: “It confirms that the Great Lakes basin is contaminated with toxic chemicals, that we lack sufficient information about human exposure to these chemicals, that we are therefore unable to draw solid conclusions about their health impact across the region, and that we need better information.” – Was there question about the presence of the contamination? (also, very awkward)
12. Preface, Pg iv, fifth paragraph: “More importantly, we need to apply that understanding, by taking effective action to protect people now and in the future, and to sustain a healthy ecosystem.” – Aren’t these two things beyond the scope of the ATSDR?
13. Executive Summary, page vi, paragraph starting “Third...”, stating that TRI and NPDES data do not indicate whether people are actually exposed to those chemicals is a good point to make. However, some readers will be aware of NHANES and other biomarker-

study data and will wonder why those data were not referenced. Also in this paragraph, the last sentence implies that ATSDR intentionally omits exposure data in assessments. Suggest this language: "...exposure pathways, but cannot necessarily determine how much exposure actually occurs."

14. Executive Summary, page vi, next to last bullet, change "analytic" to "analysis."
15. Executive summary, Pg v, first paragraph: a request to do what?
16. Executive summary, Pg v, second paragraph: mention upfront that the 26 AOCs are in the US; "Much of the available data pertain to counties, and not to AOCs."- why not, those are the areas needing remediation?
17. Executive summary, Pg v, third paragraph: bioaccumulate in wildlife; people and wildlife; what are the 12 categories of critical pollutants?; ...existing data), but also ...
18. Executive summary, Pg v, third bullet point: "...discharges into water from EPA's..."
19. Executive summary, Pg v, fourth bullet point: "...use impairments," such as ..."
20. Executive summary, Pg v, sixth paragraph: Can "health assessment products" be changed to something the public can easily understand (ie reports)? At least provide a description early on.
21. Executive summary, Pg v, sixth paragraph: define health data due to the statement that "this report does not include other health data" and there are county registries; I don't really understand the statement, "Except as noted in the context of ATSDR health assessment products, no currently available health data meet these needs; thus this report does not include other health data."
22. Executive summary, Pg vi, first paragraph: contradictory statements - "Many, (add comma) but not all, (add comma) of these sites have been remediated. The TRI and NPDES data reveal ongoing releases of pollutants in or near almost every AOC." It doesn't really sound like the problem has been fixed permanently.
23. Executive summary, Pg vi, third paragraph: change to "...information on the *presence* of environmental pollution provides..."
24. Executive summary, Pg vi, fifth paragraph: "...impossible at this time to conclusively/definitively/completely define ..." Previous conclusions give some information, provide qualifications
25. Executive summary, Pg vi, first bullet point: pathways of human exposure/pathways that people are exposed
26. Executive summary, Pg vi, second bullet point: Increased biomonitoring, previously stated that there was a biomonitoring program
27. Executive summary, Pg vi, fifth bullet point: need description of data linkage
28. Executive summary, Pg vi, sixth bullet point: change foregoing to abovementioned, definition of confounders or rephrase to confounding variables; change sophisticated to something that provides information; change analytic to analysis
29. Table of Contents, page vii, line for 2.1, remove the "1" following "NY."
30. Table of Contents, page viii, line for 5.8, "Menominee" is spelled correctly here but misspelled on the website.

Chapter 1 – Background and Methods

1. Pg 3, first paragraph: need punctuation at the end of the last sentence

2. Pg 3, second paragraph: It would be great, if this is really supposed to be readable for the public, to have the quoted phrases translated into layperson-speak (or there could be a glossary at the end – more than just this paragraph).
3. Pg 3, third paragraph: use of the word “selected” again – there hasn’t been a definition of what selected means in this context or a description of how items were selected
4. Pg 3, fourth paragraph: please define public health assessment products; change “...54 counties in geographic proximity to one or more...” to ‘54 counties that impact one or more of the 26’ – something to explain that those counties are relevant, not just mentioned because they are close
5. Pg 5, top paragraph: “...Michigan AOCs in Chapter 5, (add comma) and Lake Superior AOCs...”
6. Pg 5, footnote: is this Canadian report equivalent to this one? If so, why was it published in 2001 and only 2 pages for 12 AOCs?
7. Pg 5, third paragraph: “...bioaccumulate in wildlife, and are toxic to people and other animals (or wildlife)
8. Pg 5, Table 1-2: list 2 & 3 first, then indent and describe 2 and 3
9. Table 1-2, footnotes: the footnote discussing the “*” was split from the rest of the table and placed on the subsequent page. Please correct.
10. Pg 6, Section 1.3, first paragraph: again, use of the word selected, but no mention of the criteria used to select the items
11. Section 1.4, first paragraph, the phrase “...to provide federal assistance in toxic releases...” is awkward. Add the word “addressing” before “toxic.”
 - a. or something of the sort that doesn’t make it sound like the federal government helps to release toxic substances
12. Section 1.4, page 7, paragraph after Table 1-3, the phrase “...or (rarely) newly collected...” is awkward. Delete it. Also, in the last sentence of this paragraph, add “conducts” before “...biologic tests to determine...”
13. Pg 7, section 1.4, paragraph below Table 1-3: finally a definition of health assessment products – already used that term multiple times without a definition
14. Pg 8, section 1.4, last paragraph: delete “These too are incorporated in this report.” – It’s not necessary.; “...revised Hazard Category. Thus, (add comma) if conditions...”
15. Pg 8, section 1.5, second paragraph: If “Facility releases include discharges to air, water, and land.” is the start of a new paragraph, the line spacing needs to reflect that.; remove (s) on includes; “...is recorded as “releases onto land, (move comma)” the amount...”; last sentence in that paragraph, what does the “they” refer to? (“...compared to where they may have been previously located in the environment.”)
16. Pg 9, section 1.5, second paragraph: change to - The TRI data reporting the year 2001 releases were obtained from the USEPA, which released those data in June 2003.
17. Pg 9, section 1.6, third paragraph: remove “only” – “...the database to identify (removed only) those facilities...”; last sentence – the results were tabulated - where?
18. Section 1.6, third paragraph, regarding “...IJC-noncritical pollutants...”: Rephrase this to read “...non-IJC-critical pollutants...”, since the IJC likely does not generate a list of pollutants it takes to be noncritical.
19. Pg 10, section 1.8, first paragraph: “ATSDR produced two maps, one set located in Chapter 2-6 and the other set located in Appendix 1, for each of the ...” - move the descriptions for the two sets of maps closer to the first paragraph

20. Pg 10, section 1.8, second paragraph: areas of interest to the EPA: watersheds, sources AOCs, or expanded study areas
21. Section 1.9, last sentence, delete “and”.
22. Pg 11, section 1.10, end of only paragraph: “However, (add comma) data about numbers of ...”; change “...children, women of child bearing age and...” to “...children, women of childbearing age, (add comma) and elderly living in closest proximity (within 1 mile) are included in Chapters (change c to C) 2-6 for some sites.”
23. Pg 11, section 1.11, only paragraph: font is different in web address

Chapter 2 – Lake Ontario (not read; no Michigan sites)

Chapter 3 – Lake Erie (only sections regarding AOCs in Michigan were reviewed)

1. Section 3.7. Omit second paragraph. This paragraph is essentially repeated in 3.7.1.
2. Section 3.7.1, first paragraph: “Another industrial facility [Visteon?]. . . and two hazardous waste sites. . .” are not identified. If these are sites that were not part of an ATSDR evaluation, that should be stated.
3. Section 3.7.1, next to last paragraph: Why is Visteon discussed here when this site is Consolidated Packaging Corporation? If Visteon was one of the facilities mentioned earlier (see previous comment), information about it should be parenthetical or omitted.
4. Section 3.7.1, last paragraph: The specific PAHs are abbreviated. The lay public will not know what these chemicals are. It would be better to say “several PAHs. . .” *This happens in numerous hazardous-waste site discussions. Also, here and throughout the document at a majority of these paragraphs (“IJC Critical Pollutants Identified. . .”), the phrase “as well as other contaminants previously discussed” is used, but no other contaminants were discussed previously in those particular sections. Perhaps only the IJC-critical pollutants should be identified in this paragraph, in keeping with its heading.*
5. Sections 3.7.4.2 and 3.7.4.3 are essentially repeated from sections 3.7.2 and 3.7.3, respectively. *This happens in numerous AOC discussions.* These paragraphs should be more concise in the Summary and Conclusions section. Presenting them in table form, referring the reader to the more detailed TRI and NPDES tables, may be an alternative.
6. The first table following the map for the River Raisin AOC is a landscape orientation of the table that follows it. Delete the landscape-oriented table.
7. Table 3.7-C should be Table 3.7-B. The column headings should be in the table.
8. Table 3.7-D should be Table 3.7-C.
9. Table 3.7-E should be Table 3.7-D.
10. Table 3.8-A: There is an error in Document Type for the Lower Ecorse Creek Sump site (1993) – “HV” should either be “HA” or “HC.” Also, delete the “r” in “Finishers” for “Michigan Industrial Finishes.” The footnotes should include definitions for Hazard Categories 1 and 2 as well. The Globe Brownfield site (Category 3) is missing from the table and discussion.
11. Section 3.8.1.8, page 150, first paragraph: The term “imminent” implies that the Hazard Category for the site should have been 1, however the text states earlier that the Category was 2. Delete “imminent.”

12. Section 3.8.1.10, second paragraph: Please change the first sentence to read, “In 2005 ATSDR concluded that this site posed an Urgent Public Health Hazard (Category 1) because of the physical hazards.”
13. Section 3.8.10, page 151, first full paragraph: Replace “environmental” with “physical” and “MDCH” with “MDEQ.”
14. Section 3.8.1.11, page 152, paragraph beginning “Residential indoor exposure...”: Delete the sentence that begins, “A small but potential risk...” as this statement is made in the previous paragraph.
15. Section 3.8.1.12, page 153, paragraph beginning “The FWS...”: Replace “MDCH” with “MDEQ and COE”.
16. Section 3.8.1.14, “ATSDR Conclusions” paragraph: In the sentence beginning with, “Weathering...”, delete “in the soil.”
17. Section 3.8.1.15, first paragraph: The sentence that begins, “Data on human consumption...” is awkward and should be modified to state the information clearly.
18. Section 3.8.1.15, next to last paragraph: Add “data” after “fish.”
19. Section 3.8.1.16, “Demographic Data” section: The text is poorly displayed. Please correct it.
20. Table 3.8-B: Correct font size in heading of last column.
21. Section 3.8.1.18, “ATSDR Conclusions” paragraph: Correct spelling of “Indeterminate” and change “Category 2” to “Category 3.”
22. Section 3.8.1.21, “ATSDR Conclusions” paragraph: see previous comment.
23. Section 3.8.1.22, “IJC Critical...” paragraph: PCBs were mentioned in the previous paragraph. If they were identified during ATSDR’s assessment, then they should be included here.
24. Section 3.8.4.1, first paragraph: It is unclear what is meant by “One of the new sites added...” (second sentence). Was the site excluded in the 2007 Draft Report and added to the current draft? Also, in the sentence beginning, “The extent of lead...”, the text indicates that there has been removal of lead, but early discussion of the site stated that the removal was off-site only.
25. Section 3.8.4.1, third paragraph, second sentence: Replace “MDCH” with “MDEQ.”
26. Section 3.8.4.1, flow from page 163 to page 164: There does not appear to be a smooth transition.
27. Section 3.8.4.4, first sentence: Add “beneficial uses” at end of sentence.
28. Table 3.8-C: Column headings are missing.
29. Table 3.9-A: For the Ten Mile/Lange/Re Drainage System Site, another health consultation was issued in 2007 (Category 4). Please see further discussion on this site below (for section 3.9.1.4, general). If this consultation is added to the table, add Category 4 to the footnote description.
30. Section 3.9.1.1, “ATSDR Conclusions” paragraph: “RI/RS” should be “RI/FS.” Move “Construction on the cleanup remedy began...” to after the sentence that currently follows it.
31. Section 3.9.1.4, last line on page 179: Delete the “s” in “Reverse.”
32. Section 3.9.1.4, general: The Ten Mile Drain 2003 consultation had two Hazard Categories – Category 4 for PCB exposure, and Category 3 for exposure to arsenic in residential soil. Follow-up soil characterization for the Category 3 issue resulted in a Category 4 (no follow-up health consultation, but DRO-Region 5 collected this

information in site recommendation follow-ups). New discovery of PCBs affecting the drain led to residential soil removal by USEPA, resulting in the 2007 health consultation (Category 4) that was omitted from Table 3.9-A.

33. Section 3.9.2: This section should be deleted, and information on TRI and NPDES releases should be inserted. The Summary and Conclusions are currently in section 3.9.3. (Adding TRI and NPDES data will shift numbering.)
34. Table 3.9-E should be Table 3.9-C.
35. Table 3.9-F should be Table 3.9-D.
36. Table 3.9-G should be Table 3.9-E.

Chapter 4 – Lake Huron

1. Section 4.1.1.1, “Public Health Outcome Data” paragraph: Add “data” after “Cancer incidence” in the sentence that begins “Cancer incidence.” Also, this sentence is cumbersome and should be edited to be more reader-friendly.
2. Section 4.1.1.4, title: Delete the “w.”
3. Section 4.1.1.6, “ATSDR Conclusions” paragraph: It appears that the font size changes about midway through this paragraph.
4. Section 4.1.1.9: Various portions of the narrative from this site are not formatted correctly and appear to have been cut-and-pasted from a database. *This also occurs in Sections 4.1.1.14 and 4.1.1.17.*
5. Section 4.1.1.9, second paragraph (starting at bottom of page 203 – “To date...”): This paragraph is unnecessary and should be deleted.
6. Section 4.1.1.12, “ATSDR Conclusions” paragraph: The end of the paragraph states that remediation was completed in 2005, which conflicts with the statement earlier in the paragraph, beginning “More recently in 2006...” Please clarify.
7. Section 4.1.1.13, “ATSDR Conclusions” paragraph: Delete the parentheses (but not the text within them) in the sentence that begins, “Most of the TEQ concentration data...”
8. Section 4.1.1.13, Public Health Outcome Data, third paragraph: The report should not present the Dow Cohort mortality study results without a discussion of more recent studies that included an analysis of blood dioxin levels in affected workers. These more recent studies indicate that workers were incorrectly categorized into “exposed” and “unexposed” groups, and that many highly exposed tradesmen were mistakenly included in the supposedly unexposed control group.
9. Section 4.1.1.14, opening paragraph: Correct the section number on line 7 to Section 4.1.1.13. Also, at the bottom of page 209, the text indicates that the PEI was conducted in 2007. Rather, the report for the PEI was released that year, with the investigation being conducted in 2004 and 2005.
10. Section 4.1.4.3, second paragraph: Table 4.1-F should be Table 4.1-E.
11. Section 4.1.4.4, first paragraph: Correct italicized “Bat” to “Bay.”

Chapter 5 – Lake Michigan

1. Section 5.1.1.1, first paragraph: In next to last sentence, “1996 public health assessment” should be “1996 public health consultation.” (Similarly, see first paragraph in “ATSDR Conclusions” in this section.)
2. Pg 229, Section 5.1.1, heading, the use of the word relevant: There are other hazardous waste sites that are not relevant? How were they deemed relevant?

3. Section 5.1.1.1, “ATSDR Conclusions,” third paragraph: This is the first mentioning of “Operable Units (OUs)” in this report (at least for Michigan sites). This term might confuse a reader and should be defined here (*and for other site discussion where the term is used*).
4. Section 5.1.1.3, “IJC Critical Pollutants” paragraph: Thiocyanate is not an IJC critical pollutant.
5. Section 5.1.1.6, “ATSDR Conclusions,” second paragraph: Correct the spelling for “N-nitrosodiphenylamine.”
6. Section 5.1.1.8, “ATSDR Conclusions,” page 237: Italicize “Indeterminate Public Health Hazard.”
7. Pg 237, Section 5.1.1.8, first paragraph: Ruddiman Pond is closer to Muskegon Lake than the drain area appears to be on the map.
8. Section 5.1.1.10: Bold the type for “Public Health Outcome Data.”
9. Section 5.1.3: Table 5.1-F should be Table 5.1-E. This table is missing from the report.
10. Section 5.1.4.3: See previous comment.
11. Section 5.1.4.4: This is the first time (for Michigan sites) that this heading was used. Should it be used for all counties that are discussed? Why use county demographic data here but data for a 1-mile radius in other areas of the report?
12. Section 5.1.4.5: Are the BUIs specific only to the Muskegon Lake AOC or also to the White Lake AOC? This should be clarified.
13. Pg 241, Section 5.1.4.5, Beneficial Use Impairments: Where is this table, what is the table number?
14. Page 244, map for White Lake AOC: The whole watershed for White Lake is shown as being the AOC, whereas only the lake itself should be such. Remove the line marking the watershed.
15. Table 5.1-B: Column headings are missing.
16. Table 5.2-A: The Former Miro Golf Course is a Non-NPL site type.
17. Section 5.2.1, page 251: The font size at the top of the page should be corrected.
18. Section 5.2.1.2, first paragraph: The final sentence (“According to the USEPA...”) should be moved to after the first sentence in this paragraph. Where it is now confuses the reader.
19. Section 5.2.1.2, “Public Health Outcome Data,” second paragraph: Does the MDEQ Risk Assessment report contain actual health outcome data or is it risk assessment only? If it does not contain health outcome data, it should not be discussed in this section.
20. Section 5.2.1.2, “ATSDR Conclusions,” second paragraph: Delete the sentence that starts, “USEPA reported....” It is unnecessary.
21. Section 5.2.1.6, “ATSDR Conclusions,” second paragraph: Correct the spelling for “1,1,1-trichloroethane.”
22. Section 5.2.1.7, second paragraph, second sentence: Replace “It” with “The Remedial Investigation” to clarify.
23. Section 5.2.1.7, “ATSDR Conclusions:” Rephrase the first sentence to read, “In 2005 ATSDR concluded that indoor air inhalation presented an *Indeterminate Public Health Hazard* (Category 3).”
24. Section 5.2.2, first paragraph: Table 5.2-C should be Table 5.2-B.
25. Section 5.2.2, second paragraph: Table 5.2-D should be Table 5.2-C.

26. Section 5.2.3, first paragraph: Table 5.2-E should be Table 5.2-D. (See also Section 5.2.4.3, first paragraph.)
27. Section 5.2.3, second paragraph: Table 5.2-F should be Table 5.2-E. (See also Section 5.2.4.3, second paragraph.)
28. Section 5.2.4.4: The sentences in this paragraph appear to conflict with each other. Please clarify.
29. Page 259, map for Kalamazoo River AOC: The whole watershed is shown as being the AOC, whereas only the river itself should be such. Remove the line marking the watershed.
30. Table 5.2-B: Column headings are missing.
31. Section 5.8.5, first paragraph: Table 5.8-C should be Table 5.8-D.
32. Section 5.8.5, second paragraph: Table 5.8-D should be Table 5.8-E.
33. Page 359, map for Menominee River AOC: The whole watershed is shown as being the AOC, whereas only a short section of the river should be such. Remove the line marking the watershed.
34. Table 5.8-B: Column headings are missing.

Chapter 6 – Lake Superior

1. Section 6.1.4.4: This is the second time (for Michigan sites) that this heading was used. Should it be used for all counties that are discussed? Why use county demographic data here but data for a 1-mile radius in other areas of the report?
2. Page 374, map for Deer Lake AOC: The whole watershed is shown as being the AOC, whereas only Deer Lake, Carp Creek, and Carp River should be such. Remove the line marking the watershed.
3. Section 6.2, opening paragraph: Add “in” to the phrase in parentheses, “Michigan’s upper peninsula.” The Keweenaw Peninsula is part of Michigan’s U.P., not the entire geographic region.
4. Pg 379, Section 6.2, only paragraph: The text mentions the watershed, but there is no watershed on the map.
5. Table 6.2-A: Correct the formatting of the text at the bottom of the table. Also, the former Quincy Smelter site, which is a part of the Torch Lake NPL site, was evaluated in a health consultation dated 2006 for recreational asbestos exposure. While there was No Apparent Public Health Hazard (Category 4), since it is part of the total NPL site, ATSDR might want to consider including it in the table and this section’s discussion.
6. Pg 379, Section 6.2.1, first paragraph: Change Table 6.2A to Table 6.2-A; Also, there is only one site in the table, change text and table heading to reflect that (sites to site).
7. Section 6.2.1.1, “ATSDR Conclusions”: In the first paragraph, italicize “Indeterminate Public Health Hazard.” In the second paragraph, the last sentence, the text indicated that “contamination levels are within safety standards,” however, contaminated sediments in Lake Linden, part of the Torch Lake NPL site, were exposed as lake levels dropped, resulting in direct contact concerns and an EPA emergency removal action. ATSDR might want to consider including this issue here, even though no health consultation was produced for the Lake Linden situation.

8. Section 6.2.3: Please clarify if only one facility had an NPDES permit, as indicated by the headings for Table 6.2-D.
9. Section 6.2.4.1, first sentence: The sentence is awkward. Suggest: “The only hazardous waste site assessed by ATSDR with a public health hazard category of 1, 2, or 3 was the Torch Lake site.”
10. Section 6.2.4.4: The fish advisory for sauger and walleye is no longer in effect. There are other fish advisories for Torch Lake, however.
11. Pg 381, Section 6.2.4.4, Beneficial Use Impairments: Shouldn't the Lake Linden Beach Advisory/closing be included here?
12. Table 6.2-B: column headings are missing.
13. Table 6.2-D: column headings are confusing.

Chapter 7 – Conclusions and Recommendations

1. Section 7.1, second paragraph, final sentence: This sentence is awkward. Suggest: “This report describes each site and addresses the current status of environmental clean up efforts at the site.”
2. Section 7.1, third paragraph: Delete “with ongoing problems”, which has negative connotations.
3. Section 7.1, sixth paragraph, first sentence: How does *fish* monitoring affect *wildlife* consumption advisories? Clarify.
4. Pg 399, Section 7.1, fifth paragraph: remove “AOC counties” or move to after counties (...54 counties, AOC counties, impacted...)
5. Pg 399, Section 7.1, sixth paragraph: “...consumption in all 26 AOC, (add comma and remove s on AOCs) with the exception...”
6. Pg 400, Section 7.1, second paragraph, second sentence: remove the second and third ‘to’
7. Pg 401, Section 7.2, second bullet point: “...consumption, wildlife consumption, (add comma) or both exist...”

Chapter 8 – Bibliography (not reviewed)

Appendix 1 – AOC Maps (only maps for Michigan AOCs printed out, in color)

1. Map legends regarding symbols are not consistent. For example, River Raisin AOC map uses a dashed red line to depict watershed. The Saginaw River and Bay AOC map uses the same symbol for “source areas of concern.” White Lake AOC map legend does not show rivers and streams symbol.
2. Some counties in which AOCs are located are not discussed in the text for those AOCs. For example, the Clinton River AOC extends into Lapeer, St. Clair, and Wayne counties but only sites and releases in Oakland and Macomb counties are discussed. Residents of the omitted counties may not understand why their county was not included. The reasoning is not stated in the text of the Report.

Appendix 2 – AOC and Site Update

1. Page 409, bottom: “Ohio Sites located...” should be bold-face and the same font as similar headings.
2. Page 410, Maumee River AOC: What is meant by the asterisk?
3. Page 411, Saginaw River and Bay AOC: What is meant by the asterisk?
4. Page 418: It is not stated why these sites were eliminated from the 2008 draft of the report. It should be stated here, briefly, and also within the text of the report, under appropriate AOC discussions.

Appendix 3 – Great Lakes Human Health Effects Research Program

1. This factsheet was not reviewed, however the copy quality is very poor. ATSDR should try to provide a better-quality copy or insert a PDF copy.

Attachment II

Comments on Revised AOC Report “Selected Information on Chemical Releases within Great Lakes Counties Containing Areas of Concern (AOC)” (2008 public-comment release) Executive Summary and Lake Huron Sections.

Kory Groetsch

Executive Summary

Page v. Executive Summary, Health Data. We found the description under the section titled “Health Data” to be confusing. This is critical section because its purpose is to explain why no health outcome data is presented in the report. We suggest an alternative statement for your consideration: “No human health surveillance data are currently collected in a manner that allows one-to-one pairing of a given person’s health status and that person’s exposure to unwanted chemical contaminants. This includes populations living near an AOC. Without this type of data collection, evaluating if chemicals from AOC are affecting peoples’ health is not possible. Human health studies are not commonly available, typically due to the high cost of conducting such investigations. Where such human health studies have been conducted, the findings are included in this report.” [Note: HOD data is provided in some sections of the report under “Public Health Outcome Date”. I find this confusing]

Page v & vi. Executive Summary. Conclusions.

The term “environmental pollution” should be defined such that it refers to chemicals, not other types of pollution.

The second conclusion mentions consumer products and workplaces. It is not clear why these two topics would be included in this report. AOC are not about consumer products or workplace chemical exposures.

The idea behind the second conclusion is that no datasets on releases of chemicals into the environment are explicitly designed to assess a local population’s exposure to those chemical releases. Therefore it is difficult to determine a person's or group of people's chemical exposure within a given region, such as an AOC.

The third conclusion seems duplicative to the second conclusion and seems to restate the same idea with different words.

The fourth conclusion attempts to restate the concept under the section “Health Data”. Both this conclusion and that section should be re-written to more simply say that no system currently exist that combines peoples chemical exposure and their health in manner that allows scientists to investigate if unwanted chemical exposures are harming people’s health.

Page vi. Executive Summary, Recommendations:

It is not clear the purpose or connection between each of the recommendations. One could read the current recommendations to say that the effort should be to collect larger quantities of environmental data, human biomonitoring data, and health data in particular areas, but not necessarily have these three datasets matched in a one-to-one basis. An additional approach is to identify highly exposed sub-

populations, model the past and current chemical exposure, conduct a biomonitoring study to confirm the model results, and collect health outcome data from the highly exposed population. This additional approach will result in a dataset matching exposure pathway, an indicator of exposure (biomonitoring data), and human health. Further, this approach should result in dataset with less variability, resulting in approach that can resolve more subtle correlations or differences.

Chapter 4. Lake Huron

Bay City Middlegrounds: page 196, 3rd sentence of last paragraph. Sentence states that consumption of fish from the Saginaw River is considered a pathway of great concern. A more accurate statement is that regular consumption of many Saginaw River fish species is a public health hazard.

Berlin and Farro: page 199, Public Health Outcome Data section, last sentence of first paragraph. The following sentence is confusing in reference to statistically, significantly higher occurrence of respiratory symptoms of the population with 2 miles of the waste incinerator. *“This information may suggest that the former industrial activity (incineration of hazardous waste) at the site was potentially linked to health problems, but it does not provide insight into the potential health hazard from waste site-related contaminants.”* Assuming the information in the report is accurate and ATSDR concludes that the *“site was potentially linked to health problems”*, then this significant finding does provide insight into the site being a health hazard for two reasons. First is confirms a completed exposure pathway from the site to the population and the population was having immediate and observable health effects (i.e., health hazard). Secondly, if incineration debris was contaminated with PBTs, then a potential chronic health hazard also exists.

Velsicol Chemical: Page 202 Demographic Data and Public Health Data sections. These consecutive sections seem to inaccurately imply that the residential community near the site were exposed to high concentrations of PBB and may be suffering negative health effects. Several facts need to be clarified. First, although the Velsicol workers and possibly their family members were asked to be part of the registry, the workers were not included in the data analyses, because the workers were occupationally exposed to not only PBB but a long list of hazardous substances. Thus, any findings in the workers are unique to their diverse occupational chemical exposures and do not represent the surrounding community. Secondly, MDCH conducted a blood serum biomonitoring study of the closest residential communities. Approximately 200 individuals participated in study and the resulting PBB blood concentrations were similar to background exposures in Michigan. Any study results from the PBB cohort do not specifically apply to the residence of St. Louis, because it is not clear they had any more exposure to PBB than the average Michigan citizen. As currently written, this section presents a significant problem, because it perpetuates an unsupported perception that the residents of St. Louis are or were a highly exposed population. The only known exposure pathway that exists today is from regular consumption of fish from the Pine River.

Dow Chemical Co., Michigan Division, Midland Location: Page 207-209.

1.) Public Health Outcome Data page 208

- a. In general, the “Public Health Outcome Data sections”, as demonstrated in this section and the Tittabawassee River PHOD section, is not strictly limited to PHOD. For example, this section talks about the Dow cohort mortality study that is an occupational study, with some classification of exposure (see comments below). Cohort or other epidemiology studies that include some level of exposure classification should be in separate section. PHOD does not have one-to-one chemical exposure information. It is likely worth stating this fact at the beginning of every PHOD section. The Tittabawassee River PHOD section does not even include PHOD, but instead discusses

exposure information.

- b. Paragraph 1: The citation “USEPA reported (2006)” is not listed in Appendix 8, the bibliography.
- c. Paragraph 2: Mentions a citation of MDCH June 5, 2001, but this citation is not listed in Appendix 8, the bibliography.
- d. Paragraph 3: Discusses Dow cohort study. As mentioned above, does not belong in PHOD section. Further, some discussion of the misclassification concerns regarding the “unexposed” group.
- e. Paragraph 4. Michigan Birth Defects Registry, it should be noted that no chemical exposure data is provided with this registry, thus it has limited value in assessing the potential effects of dioxin exposure.
- f. Paragraph 5. The USEPA 2006 citation is used again (see comment b, above), for which it says the USEPA sites MI Dept. of Public Health evaluation. Suggest that you seek out the original publication to ensure that the interpretation is correct.

Tittabawassee River: Page 209-210.

- 1.) The MDCH PEI was conducted in 2002-2003 before the UMDES study and final report was posted in 2004. An updated report, which included response to comments, was released in 2007.
- 2.) “Public Health Outcome Data” is the wrong title for the section because no PHOD is discussed. The information provided is about exposure and not health effects. Change the title, it is incorrect.
- 3.) Add citations with specific page numbers for the conclusions being provided about the UMDES study. I have not seen the second bullet point stated about the UMDES study in that way.

Summary and Conclusions for the Saginaw River and Bay (page 213-214)

- 1.) Page 213 Section Hazardous Waste Sites
 - a. 4th bullet point says “Tittabawassee River- lack of data on possible exposures” . That is a completely false statement. MDCH has concluded that completed exposure pathways exist for fish consumption domestic animals consumption (i.e., eggs from chickens raised on the flood plain), wild game consumption, and soil exposures (http://www.michigan.gov/documents/mdch/FCS_Final_rpt_061407_199288_7.pdf , http://www.michigan.gov/mdch/0,1607,7-132-2945_5105_29181-113198--,00.html). Advisories have been issued on many of these topics. Remove the state of “lack of data on possible exposures”.
 - b. Paragraph 3 last sentence: Remove the last sentence that states, “The dioxin contamination ... data were lacking on possible exposures.” Replace with, “Dioxin contamination is widespread throughout the Tittabawassee River and flood plain, Saginaw River, Saginaw Bay and the tissues of fish and wild game living in these areas. Completed exposure pathways are well known and are a public health hazard. Further studies would be beneficial to understand the relationship between human behaviors and the amount of dioxin in people’s bodies.”
- 2.) Page 214 Section Beneficial Use Impairments

- a. This section is within the Summary and Conclusions section for the Chapter about Lake Huron, but the BUI information is only about the Saginaw River and Bay AOC. Lake Huron could also include the St. Mary's and St. Clair AOCs.
- b. The report 2001 AOC Remedial Action Plan Update about the Saginaw River and Bay (SR/SB AOC RAP report) is cited as a source of information. The ATSDR Great Lakes AOC report inaccurately paraphrased the SR/SB AOC RAP report. The SR/SB AOC RAP report does not draw the conclusions stated in paragraph one of this BUI section. The SR/SB AOC RAP report sets "targeted restored conditions" (i.e., goals to be achieved) and, as such, these statements are not conclusions. Suggest removing any mention of the following statements, because as currently presented in the ATSDR AOC report, they seem to be firm conclusion, and not goals for the future.
 - i. ATSDR report says "...PCB and dioxins levels in walleye from Saginaw River and Bay are similar to those found in similar fish from non-AOC areas in the Great Lakes" First, walleye are a bad choice of indicator species, because they migrate long distances. Secondly, if you look at carp data, a better indicator of local contamination, Saginaw Bay and River carp are some of the most contaminated fish in the Great Lakes. The Saginaw River and Bay have some of the most restrictive fish consumption advisories in Michigan waters, because the fish are so abnormally highly contaminated.
 - ii. "...indication from studies of caged fish that former sources of contaminant have been effectively controlled and/or remediated" In the original statement in the SR/SB AOC RAP report, they include the phrase "(including sediment)" after the word "sources". This is goal, not a conclusion. Remember that the EPA as issued emergency response clean-up action orders in 2007 for the Tittabawassee and Saginaw Rivers. Clearly, the sediments are still a major environmental and public health concern in that river and bay.
- c. "Taste and odor problems in drinking water are cited. The problem is attributed to blue-green algal blooms...." This is an assumption without a provided mechanism of why algal blooms would cause drinking water odor or taste problems. The SR/SB AOC RAP report does not seem to mention other likely reasons, which were volatile organic chemical, primarily phenols that were released into the Tittabawassee River and Saginaw River, likely from chemical manufacturing facilities. Clean Water Act legislation resulted to laws and permits that controlled the release of such chemicals back in the 1980s. Suggest removing this statement because it lacks documentation.
- d. Recommend a substantial re-write of this section based on verifiable information.