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Renegotiation of the 1987 Great Lakes Water Quality Agreement: From Confusion to Promise

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Received: / Accepted: / Published:

Abstract: The Great Lakes Water Quality Agreement has been the unifying principles for interjurisdictional shared water management for Canada and the United States for nearly 40 years. Beginning in 2009, both governments agreed to renegotiate a renewed agreement bringing it up to date with scientific advances and complex governance challenges. This is the first substantial amendment to the agreement since 1987 and represents a watershed point in the history of the Great Lakes regime. This manuscript documents for posterity the process being employed in the negotiations and in public engagement through that process. It contains distressing observations and highlights promising approaches to ensure the new agreement is truly a vision for the 21st century.

Keywords: interjurisdictional management, governance, Great Lakes, negotiation, public consultation

1. Introduction

Seen from space, the Great Lakes appear as sparkling jewels strung across the center of North America. The Great Lakes ecosystem is one of the great natural wonders of the world. Nearly one-fifth of the planet's surface fresh water is stored in and flows through the lakes. One out of every three Canadians and one of every ten United States residents takes her or his drinking water from the Great Lakes (Manno and Krantzberg 2008).

As Manno and Krantzberg (2008) explain:

32 “The Great Lakes Water Quality Agreement was negotiated pursuant to the 1909 Boundary
33 Waters Treaty between the United States and British Canada that had created the International
34 Joint Commission (IJC) to help resolve problems including pollution that was causing injury to
35 health or property crossing the binational border. The IJC and the institutions added to it
36 ...were based on the principle of bi-nationalism (two countries collaborating on achieving a set
37 of shared goals) rather than bi-lateralism (two countries negotiating with each other in an attempt
38 to balance interests and protect each others rights).”

39 Prime Minister Pierre Trudeau and President Richard Nixon signed the Great Lakes Water Quality
40 Agreement (GLWQA) in 1972. This Agreement expresses the commitment of Canada and the United
41 States to restore and maintain the chemical, physical and biological integrity of the waters of the Great
42 Lakes Basin Ecosystem (United States and Canada 1972). The GLWQA has had substantial influence
43 on the cleanup and restoration of the region. The progress made since 1972 is evidenced by the
44 documentation by scientists early in the 21st century (for the first time since 1916), of the presence of
45 spawning lake whitefish and eggs in the Detroit River, the resurgence of cormorant populations, the
46 rediscovery of sturgeon populations, and the return of nesting and fledging bald eagles (Krantzberg
47 2008).

48 For nearly four decades the Great Lakes regime has invoked the GLWQA as the mechanism for
49 binational cooperation on programs and policies to enhance and protect the integrity of the Great
50 Lakes. Many advances in water quality have lead to unquestionable improvements in ecosystem
51 quality, habitat and biodiversity, and water infrastructure. As reported at the 2009 State of the Lakes
52 Ecosystem Conference “[r]eleases of targeted bioaccumulative toxic chemicals have declined
53 significantly from their peak period in past decades and, for the most part, no longer limit the
54 reproduction of fish, birds and mammals. Concentrations of contaminants in the open waters are low,
55 and many contaminants are further declining” (SOLEC 2009).

56 Further, Hall (2009) describes how Canada and the United States have led the way in incorporating
57 citizen participation into transboundary environmental protection and governance. “Since the 1970’s,
58 the second generation (after the Boundary Waters Treaty) of environmental agreements between the
59 United States and Canada demonstrate a dramatic growth in the role of citizens in achieving
60 compliance with international environmental law.” The GLWQA relies “heavily on citizens to ensure
61 compliance and implicitly recognize that the two federal governments may have more in common with
62 each other than with citizens and other stakeholders on both sides of the border when it comes to
63 environmental protection and harm.”

64 While acknowledging progress towards meeting the purpose of the GLWQA, Great Lakes scientists
65 have issued compelling evidence that the ecological health of the basin ecosystem is at significant risk
66 and could be approaching a tipping point. According to Bail et al. (2005) “[t]here is widespread
67 agreement that the Great Lakes presently are exhibiting symptoms of extreme stress from a
68 combination of sources that include toxic contaminants, invasive species, nutrient loading, shoreline
69 and upland land use changes, and hydrologic modifications...Factors such as the size of the lakes, the
70 time delay between the introduction of stress and subsequent impacts, the temporary recovery of some
71 portions of the ecosystem, and failure to understand the ecosystem-level disruptions caused by the

72 combination of multiple stresses have led to the false assumption that the Great Lakes ecosystem is
73 healthy and resilient.”

74 **2. Consensus Emerging from the Review of the GLWQA**

75 The contrasting elements of success and peril, and the contemporary threats to ecological integrity
76 not included in the GLWQA raise the importance of reviewing the Agreement with an eye to revisions.
77 Imbedded within the Agreements is the provision for such a review. Article X of the GLWQA directs
78 the Parties to conduct a comprehensive review of the operation and effectiveness of this Agreement
79 following every third biennial report of the [International Joint] Commission (IJC). The IJC's 12th
80 Biennial Report, released in 2004, triggered this review which commenced May 2006 and concluded
81 in October 2007 (Krantzberg 2008). The Review was conducted by organizing self-selected interested
82 stakeholders into a set of binationally co-chaired Review Working Groups (RWGs). The results of that
83 review are documented by ARC. States the ARC:

84 “Conducted under the guiding principles of openness, transparency and inclusiveness, the
85 Review Report, prepared by the Agreement Review Committee (ARC), draws on the work of the
86 Reviewers... The key outcome of the public review was that, while there have been many
87 successes; the GLWQA is outdated and unable to address current threats to Great Lakes water
88 quality.”

89 “The reviewers found that...[c]ontemporary approaches to water resource regeneration such as
90 watershed planning and implementation would strengthened the ability to achieving the purpose
91 of the Agreement. Further the Agreement was absent language association with climate change,
92 aquatic invasive species and urbanization. Attention was directed, as well to reforming
93 governance in a manner that would enable active engagement of the large cross section of
94 society that is currently and could in the future be more actively engaged in the implementation
95 of the Agreement. More meaningful public and partner participation in the development and
96 implementation of a renewed Agreement was recommended.” (ARC 2007a)

97 Previously, Krantzberg (2007) documented that the “Great Lakes community has witnessed and
98 some have engaged in a year of teleconference discussions based on opinion by, as BEC states, experts
99 and nonexperts alike. That no resources were made available by the Parties to conduct in person,
100 researched and vetted discourse is disturbing. There has been no analysis of what in the Agreement
101 works, what does not work, and why. There has been no systematic collection of empirical evidence
102 upon which to base any specific and defensible findings.” Nevertheless, there was enough of a
103 consensus that the Agreement needs to be modernized to push the parties forward to that end.

104 There are, despite the difficult and flawed review period, highly useable observations and
105 recommendations included in the reports of the working groups. At the time of writing, it is unclear
106 that the Negotiators are deliberately mining these working group reports for context regarding a new or
107 revised Agreement.

108 On Watershed Planning and Land Use, among the conclusion the working group draws are (ARC
109 2007b):

- 110 • “The Agreement should establish a broad institutional watershed planning framework with goals,
 111 objectives, implementation targets, and mechanisms to coordinate land use decision makers at all
 112 levels of government. One framework objective should be establishing watershed management
 113 plans that are developed and implemented with local partners, include all the tributaries across the
 114 Great Lakes Basin, are clearly linked to larger lake-wide targets, and are contributing to the goals
 115 set out in LaMPs and RAPs;
- 116 • The Agreement should clarify that its scope covers the effects of land use on the water quality of
 117 the Lakes’ near-shore, coastal, and shoreline areas, and their tributaries.”

118 On Biodiversity Threats and Responses, among the conclusion the working group draws are (ARC
 119 2007b):

- 120 • The Agreement should explicitly address the need for the protection, conservation, and recovery of
 121 aquatic and related terrestrial biodiversity as a factor in maintaining or improving water quality;
- 122 • The Agreement should explicitly note biodiversity as key measure and driver of ecosystem
 123 processes related to maintenance of water quality;

124 On Climate Change, among the conclusion the working group draws are (ARC 2007b)

- 125 • Additional authority to address climate change should be articulated in the Agreement’s
 126 introductory language
- 127 • A new annex should be created for the Agreement to support climate change-related monitoring
 128 and research OR Annex 17, “Research and Development,” and Annex 11, “Surveillance and
 129 Monitoring,” should include specific authorities for joint climate change-related monitoring and
 130 research.

131 Regarding Invasive Species, reviewers concluded

- 132 • A new annex to the Agreement should be created to address invasive species by establishing clear
 133 goals and accountability mechanisms;
- 134 • The Agreement should take into account the goals, milestones, and specific recommendations
 135 included in the Great Lakes Regional Collaboration Strategy and its Aquatic Invasive Species
 136 appendix.

137 Many other topic areas can be found in the Agreement Review Committee’s reports available at
 138 http://binational.net/home_e.html. It is not clear that these findings were inspected and considered as a
 139 collective direction that could inform the renegotiation process, as revealed by the nature of the
 140 consultations held in webinars as described below.

141 **3. Renegotiation Begins in 2010**

142 In response to the strong consensus that the GLWQA is out of date, the Canadian Minister of
 143 Foreign and U.S. Secretary of State announced on June 13, 2009 that the two countries would begin
 144 negotiations to amend the Agreement. (DFAIT 2009).

145 It would take until January 2010 that U.S. EPA's Great Lakes National Program Office (GLNPO)
 146 and Environment Canada announced they would host a “binational webinar for Great Lakes partners,
 147 stakeholders and the public. The purpose is to inform all of the process for negotiations between the

148 governments of the United States and Canada to amend the Great Lakes Water Quality Agreement.
149 The webinar will provide opportunity for questions and answers and hopefully will be archived.” The
150 webinar was not archived. Nor were there any answers. Says Heckl (2010) “ENGOs were frustrated
151 with these government webcasts because the governments provided little information on the calls, the
152 webcasts were fraught with technical problems, and because they did not allow for a much needed
153 dialogue between the governments and the public. The governments referred to the webcasts as
154 ‘listening sessions’.”

155 Negotiations to amend the Agreement were formally initiated January 27, 2010, when senior
156 officials from Environment Canada, Foreign Affairs and International Trade Canada, the U.S.
157 Department of State and the U.S. Environmental Protection Agency concluded the first formal
158 negotiating session for amending the GLWQA. A summary of what was entitled the First Plenary
159 Meeting was provided online. It read:

160 “At this first negotiating session, Canada and the U.S. reached agreement regarding the
161 binational structure and process for negotiations. Both countries have agreed to a tentative
162 timeline that targets December 2010 for completion of the process, while recognizing that
163 timelines may need to be adjusted as negotiations proceed.

164 “The first issue to be addressed in negotiations will be governance. Governance discussions will
165 focus on the purpose and scope of the Agreement, vision and principles, the management
166 framework and provisions for future reviews and amendments to the Agreement. The
167 Governments of Canada and the United States are committed to engaging the public at key
168 stages of the negotiating process. At this stage, the public was invited to comment on governance
169 issues...A second negotiating session is scheduled for April 2010, at which time progress on
170 governance issues will be reviewed and the focus of negotiations will shift to specific
171 environmental issues.”

172 In Canada, a Stakeholder Advisory Panel was struck, but no such consultative body was assembled
173 in the United States. On April 8, 2010, senior officials from Environment Canada, Foreign Affairs and
174 International Trade Canada, the U.S. Department of State and the U.S. Environmental Protection
175 Agency met for the second formal negotiating session for amending the GLWQA. A summary of that
176 meeting was posted online and read:

177 “Since the formal launch of negotiations on January 27, 2010, a significant amount of work has
178 been undertaken. During this time, governance discussions focused on the Agreement’s purpose,
179 scope, vision, principles, and management framework. Provisions for future reviews and
180 amendments to the Agreement were also discussed.

181 ...Canada and the United States are committed to continued public engagement and have
182 planned additional domestic and binational mechanisms to further engage the public and Great
183 Lakes stakeholders at key stages in the negotiating process. These mechanisms will include a
184 series of binational public webinars that will begin in May. During this webinar series, written
185 comments will be solicited over a six week period. Towards the end of the negotiating process,
186 Canada and the United States also intend to host one public forum in each country.”

187 The author will return to this commitment to public webinars below.

188 The statement concludes: “A third negotiating session is expected to take place in Summer 2010, at
 189 which time progress on all of the issues will be reviewed and the focus of negotiations will shift to the
 190 synthesis stage. This will ensure that the interrelation between governance and specific issues is
 191 reflected in the Agreement. Focus will also shift to drafting amended text for the Agreement.”

192 The Governments of Canada and the United States hosted a series of binational public Webinars
 193 purportedly “on substantive issues” during the week of June 2010. and in addition to soliciting input
 194 during these Webinars, written comments were invited until July 2010.

195 The summer negotiation did not take place, and by the end of the 2010 calendar year, it became
 196 clear the negotiations would extend into 2011. The delay of the summer session to January 2011 ended
 197 up to be optimistic. That meeting was further delayed and at time of writing the meeting was
 198 tentatively rescheduled for the spring of 2011, representing a delay in completing the negotiations of at
 199 least nine months.

200 **4. The Webinars: Scarce on Substance**

201 The webinars to consult with regional members of the Great Lakes community entailed a number of
 202 considerations for which the Parties were seeking feedback. In most instances, the considerations were
 203 surprisingly vague and seemingly naïve.

204 The first topic shared was that of Governance, which the Parties defined as Agreement Scope

205 An extract from the slide in which the Parties solicited input on governance were:

- 206 • “Scope:
 - 207 – Currently, focused on addressing transboundary impairments.
 - 208 – Fuller consideration of chemical, physical, and biological integrity?
 - 209 – Extend to address land-water connections at nearshore?
- 210 • GLWQA Management Forums:
 - 211 – Currently, federal, provincial and state agencies responsible for implementing programs
 - 212 relevant to achieving goals.
 - 213 – Expand membership?
 - 214 – Expanded membership role in priority setting and accountability?
 - 215 – Coordination with other environmental management forums?”

216 Bearing in mind the findings of the review published by the Agreement Review Committee (ARC
 217 2007b) as cited above, that there would be a question as to fully considering physical and biological
 218 attributes, rather than the chemical focus that characterizes the current agreement is surprising, given
 219 that working groups during the Agreement Review were struck to discuss, for example, biodiversity,
 220 invasive species, habitat and climate change.

221 Questioning the participants on whether or not to extend the purview of the GLWQA to the
 222 nearshore suggests that there was negotiation required for the Parties to arrive at a consensus. Yet both
 223 the Review Working Groups and the IJC recommendations firmly emphasize this point. “The
 224 Agreement should establish a broad institutional watershed planning framework with goals, objectives,
 225 implementation targets, and mechanisms to coordinate land use decision makers at all levels of
 226 government. One framework objective should be establishing watershed management plans that are

227 developed and implemented with local partners, include all the tributaries across the Great Lakes
 228 Basin, are clearly linked to larger lake-wide targets, and are contributing to the goals set out in LaMPs
 229 and RAPS;... The Agreement should clarify that its scope covers the effects of land use on the water
 230 quality of the Lakes' near-shore, coastal, and shoreline areas, and their tributaries.” (ARC 2007b).
 231 Regarding other orders of government and the public, the ARC reports that reviewers stated:

- 232 1. “The Agreement should recognize the critical role and essential participation of other orders of
 233 government, including: (1) Tribes and First Nations, (2) states and province and (3) local
 234 governments and authorities. These entities should be included in the revision and implementation
 235 of the Agreement.
- 236 2. The Agreement should recognize the critical role and essential participation of the public in the
 237 successful implementation of the Agreement by the Parties and other orders of government. The
 238 public should be consulted in any revision of the Agreement.
- 239 3. The Agreement should recognize the importance of accessible information for decision making to
 240 foster greater involvement of other orders of government, non-government organizations and the
 241 public.” (ARC 2007a)

242 The IJC working group on the Nearshore Framework concluded that “[a] comprehensive and
 243 ecosystematic scientific assessment of condition of the nearshore waters and habitats of the Great
 244 Lakes is required. This should be developed within an adaptive-management strategy...” (NFAW
 245 2009).

246 Hence raising the question surrounding expanded membership in Agreement implementation is
 247 baffling, as such engagement was not only articulated by hundreds of persons engaged in the review,
 248 but is also a fundamental prerequisite for actions to regenerate the health of the nearshore environment.
 249 Webinar participants were asked to comment on what they had already considered extensively in the
 250 2006/7 review, at the IJC’s Biennial meeting in 2009, and in other fora such as the Great Lakes St.
 251 Lawrence Cities Initiative, who issued Resolution 4 – 2009M on the Great Lakes Water Quality
 252 Agreement stating that “any final agreement recognize the critical role that local governments play in
 253 the protection and restoration of the resource.” (GLSLCI 2009). The request for public input on
 254 matters that had already been deliberated at length engendered frustration since that those seeking
 255 input at this juncture were asking questions that had long been answered. There was nothing new of
 256 substance in this part of the webinar, in fact, the rehashing of matters resolved was unnerving and left
 257 the impression that those putting forward the questions were feigning consultation on matters for
 258 which there was overall government and stakeholder consensus. Approaches to public engagement
 259 leading to collaborative cooperation would dictate this type of consultation requires substantial
 260 modification.

261 **5. Toxic Chemicals**

262 The webinar regarding toxic chemicals included was the topic of “Establishing Objectives:” which
 263 the Parties describe as currently out-of-date and difficult to update, and go on to ask:

- 264 • Establish substance specific objectives independently?
- 265 • Establish Great Lakes wide substance specific objectives?

- 266 • Establish Great Lakes ecosystem objectives?

267 In the review of Article IV and Annex I of the Agreement, working group members reported “The
268 inclusion of The Specific Objectives Supplement to Annex 1 section 3, Lake Ecosystem Objectives,
269 seems out-of-place and underdeveloped concept as it currently stands. The Parties should consider
270 transferring the concepts of Lake Ecosystem Objectives as articulated in The Specific Objectives
271 Supplement to Annex 1 section 3, into Annex 2 or to its own annex on ecosystem objectives...” (ARC
272 2007b).

273 The literature on ecosystem objectives points to their importance in triggering management actions.
274 A key challenge identified by Gislason et al. (2000) is to define “measurable indicators and cost-
275 effective monitoring programmes that relate to ecosystem objectives, as well as the reference
276 points...There is a need to consider impacts on both the structure (biodiversity) and the function
277 (habitat productivity)” of ecosystems. As Niemi et al (2007) point out, “(e)nvironmental indicators are
278 benchmarks for the current conditions of the Great Lakes coastal region and provide measurable
279 endpoints to assess the success of future management, conservation, protection, and restoration of this
280 important resource.” The webinar asked participants to consider whether to establish objectives in a
281 wolly manner; given the advanced status of objective development and deployment for large
282 ecosystems regionally and globally. The notion of a substance by substance approach to indicator
283 development has long been regarded as entirely incomplete without an ecosystem-based objective that
284 is integrative of multiple stressors. For example, Niemi et al (2004) remark that coastal resources have
285 traditionally been monitored on a stressor-by-stressor basis. To fully measure the complexities of
286 coastal systems, they contend, there is a need for a new set of ecologic indicators that span the realm of
287 biological organization and are broadly applicable across geographic regions while integrating stressor
288 types.

289 Implementation of the ecosystem approach, introduced into the GLWQA in 1978, necessitates, as
290 pointed out by MacDonald et al. (2009) the “development of ecosystem goals, objectives, and
291 indicators, to guide decisions on the management of aquatic resources. Ecosystem objectives are
292 specific narratives that depict the nature and breadth of the ecosystem goals (to restore and maintain
293 ecosystem integrity, for example). “A set of ecosystem indicators (including specific metrics and
294 targets)” continue MacDonald et al. (2009) is necessary to evaluate programs and measures towards
295 achieving the ecosystem goals and objectives.

296 The discussion of a “Management Framework” under this topic area invited webinar participants to
297 comment on whether the Parties should among other things, “(c)ommit to monitoring and research to
298 identify emerging issues”. In light of the emerging issues extensively referenced in ARC (2007), such
299 a question is mute, and the purpose for asking it obscure.

300 **6. Nutrients**

301 The webinar regarding nutrients was introduced in this fashion:

- 302 • Establishing Targets:
- 303 – Single phosphorous target for Great Lakes?
 - 304 – Separate phosphorous targets for each Great Lake?

- 305 – Phosphorous targets specific to each Great Lake, as well as areas within each lake?
- 306 – Include socio-economic factors in establishing targets?

307 I am astonished that we were requested to considering that a future GLWQA might contemplate to
 308 set a single phosphorous target for the entire Great Lakes or even a single one for each Great Lakes.
 309 Coupled with the vague language on whether a P target is a loading limit, open water concentration, or
 310 otherwise, this consultation was particularly empty of science. It is illogical to consider such an option,
 311 given that the nature for each of the Lakes varies from oligotrophic as in Lakes Superior, Huron and
 312 Michigan to oligomesotrophic and mesotrophic for different zones in Lakes Erie and Ontario.

313 **7. Aquatic Invasive Species**

314 The webinar regarding Aquatic Invasive Species was introduced in this fashion:

- 315 • Scope:
 - 316 – Address all aquatic invasive species, only those known to impact water quality, or only those
 - 317 known to impact biological integrity?
 - 318 – Consider aquatic invasive species threatening to enter the Great Lakes through canals, rivers,
 - 319 and waterways?
- 320 • Management Framework:
 - 321 – Binational forum to identify priorities; domestic mechanisms for action?
 - 322 – Binationally identify priorities and strategies in an Action Plan; domestic mechanisms for
 - 323 action?
 - 324 – New binational programs and activities to supplement domestic mechanisms for action?

325 It is questionable as to whether it is possible to parse biological integrity from water quality in the
 326 context of the receiving waters of the Great Lakes. In 1991 Karr (1991) discussed the matter of water
 327 being of sufficient quality and quantity as critical to all life. By way of illustration, Karr uses the
 328 “Water Pollution Control Act of 1972 (PL 92—500) and its charge to "restore and maintain" biotic
 329 integrity” to “illustrate that law's biological underpinning.”

330 Additionally, citing from the United States Environmental Protection Agency’s “Assessing
 331 Biological Integrity of Surface Waters” (EPA 1998)

332 “The EPA is now focusing on developing biological criteria in addition to chemical criteria to
 333 help track progress in maintaining and restoring the health of our waters. In most cases, the most
 334 direct and effective way to assess the "health" or biological condition of waterbodies is to: (1)
 335 directly measure the condition of their biological communities, and (2) support those data when
 336 necessary by measuring the physical and chemical condition of waterbodies and their
 337 watersheds.”

338 Water quality is central to biological integrity, by way of these illustrations. The inability and
 339 probably, undesirability to separate water quality from biological integrity not only invalidates the
 340 question of scope put forward by the negotiators of the GLWQA in the consultative process, but call
 341 into question the thought process for putting such an option forward.

342 The GLWQA review suggested that a revised GLWQA could serve as the organizing vehicle to
 343 deal with AIS binationally. While the GLWQA review did not deal specifically with a management
 344 framework, it did recommend there be a separate annex for AIS , and that the U.S. Great Lakes
 345 Regional Collaboration Strategy and its Aquatic Invasive Species appendix should be taken into
 346 account. Existing action plans in either or both countries could serve as models for an AIS annex in a
 347 revised Agreement.

348 The program elements are clearly essential if AIS are to be intercepted and risk reduced. The
 349 questions here are perfunctory, as are the nuanced language in the Management Framework that
 350 structurally look like options, but operationally are minor variants on a theme.

351 8. Climate Change

352 The webinar regarding Climate Change was introduced in this fashion:

- 353 • Climate Change Models:
 - 354 – Develop or enhance models to predict changes in regional climate?
 - 355 – Develop or enhance models to predict the impacts of regional climate change on chemical,
 356 physical, and biological processes in the Great Lakes?
 - 357 – Enhance monitoring to validate model predictions?
- 358 • Enabling other levels of Government and NGOs:
 - 359 – Communicate model outputs and provide other assistance to help address climate change
 360 impacts?
 - 361 – Opportunities to help guide modeling efforts?

362 It is evident that determining how the climate system will respond to increasing atmospheric
 363 concentrations of greenhouse gases requires the development of future climate change scenarios.
 364 These scenarios are best described as plausible, coherent, internally consistent descriptions of a
 365 possible future state of the world, and are used to assess potential impacts and adaptation responses
 366 and acknowledge this uncertainty (Mortsch et al., 2005). The literature already contains a number of
 367 scientific techniques to develop these future climate scenarios. These include spatial and temporal
 368 analogues, application of systematic changes to observed climate data with guidance from Global
 369 Climate Models (GCMs), statistical downscaling techniques applied to coarser resolution GCM output
 370 and dynamical downscaling methodologies including Regional Climate Models (RCMs) (AMEC
 371 2006).

372 Higher resolution Regional Climate Models (RCMs) can improve simulations on local climate and
 373 forcing features and processes, but AMEC (2006) point out that computational demands are greater
 374 with their use and their output may not always be available for use in the climate impact assessment.
 375 Therefore, enhanced modeling efforts under the auspices of the GLWQA are a welcomed direction put
 376 forward during the renegotiation of the Agreement. The nature of such modeling was discussed in the
 377 context of detailing a variety of approaches to modeling during the webinars. This detail at this
 378 juncture is of questionable utility and more importantly deflects the discussion from the substantive
 379 matter of committing to the development and implementation of adaptation strategies, not mentioned
 380 in the documentation associated with the webinar consultations.

381 The types of considerations open for discussion during the consultative period in 2010 remain mute
 382 on the urgency of design and operation of adaptation programs, policies and responses. This results in
 383 an unsatisfying dialogue on the future integration of climate change into a renegotiated GLWQA and
 384 its blatant omission is troubling.

385 **9. Habitat and Species**

386 The webinar regarding Habitat and Species was introduced in this fashion:

- 387 • Scope:
 - 388 – Rely on jurisdictions around the Great Lakes as opposed to addressing this issue through
 - 389 the Agreement?
 - 390 – Commit to maintain and restore habitats, species and ecosystem services supporting the
 - 391 chemical, physical, biological integrity of the waters of the Great Lakes?
- 392 • Monitoring and Reporting:
 - 393 – To include all species, habitats and ecosystem services which contribute to, or are key
 - 394 indicators of water quality?
 - 395 – To include only those species, habitats and ecosystem services that are relevant to address
 - 396 lake-specific impairments

397 The 2006/7 review of the Agreement included a working group on Biodiversity Threats and
 398 Responses. The working group called for the Agreement to explicitly address the need for the
 399 protection, conservation, and recovery of aquatic and related terrestrial biodiversity as a factor in
 400 maintaining or improving water quality and explicitly note biodiversity as key measure and driver of
 401 ecosystem processes related to maintenance of water quality (ARC 2007b). From the first pair of
 402 considerations regarding scope, it is apparent the findings of the working group are not being accepted
 403 as a consensus from the region. Why this is the case is unknown. Further the monitoring and reporting
 404 options seem not to make sense. Key indicators of water quality would be relevant to lake-specific
 405 impairments, and indicators that were limited to current lake-specific impairments would not have the
 406 flexibility to respond to future threats to water quality and ecosystem health.

407 Overall, the consideration of including species and habitats in a revised agreement is a welcome
 408 advance. The matters presented for discussion, however, provided little by the way of substance.

409 **10. Next Steps**

410 The Parties indicated at the conclusion of the webinars that “Possible elements and approaches
 411 under consideration will be presented for feedback. Advice received on different approaches will
 412 inform subsequent negotiations... Two in-person meetings planned [are planned] for Fall 2010 (one
 413 each in U.S. and Canada) to present likely amendments to Agreement.” These did not take place.

414 In November 2010, the IJC was informed that the Parties have nothing to report since their last
 415 meeting with Commissioners at the October Semi-Annual Meeting and that the next negotiating
 416 plenary scheduled for the week of January 24 , 2011 was further delayed until at least April 2011.

417 In response to the nature of the consultation to date, thirty-six citizens' groups submitted a joint set
 418 of comments on the Canadian and U.S. Federal Governments as they renegotiated the Great Lakes
 419 Water Quality Agreement. In their document of July 9 2010 the collaboration states:

420 "To improve the rest of the consultation process, we urge you to carry out each of the following:

- 421 1. Provide detailed draft language of the proposed new Agreement to the public for their comment
 422 and ensure that the consultation stage after the release of draft language is long enough to allow
 423 people to conduct full assessments and provide detailed comments back to the governments.
- 424 2. Conduct dialogue sessions – not just listening sessions – so we can have a thorough discussion
 425 with the negotiators of issues and options under consideration.
- 426 3. Set up an expert table that includes both government and non-government people for each issue
 427 area to develop the draft Agreement language.
- 428 4. Hold more than just the two public meetings that have been promised for late September and
 429 provide adequate advance notice of these meetings, including making materials available, so
 430 people can reserve the dates and adequately prepare for the meetings."

431 **11. Some Promising Potential**

432 At the request of a coalition of several dozen environmental nongovernmental organizations, seven
 433 conference calls were held in September to discuss governance, toxic substances, nutrients, climate
 434 change, habitat and species protection, aquatic invasive species, and the coordination of science and
 435 research in the Great Lakes region. Heckl (2010) recounts that "[o]n each call, the government issue-
 436 leads gave a brief overview of their thinking on solutions to their respective issues and then the
 437 ENGOs briefly summarized their main recommendations on how the issue should be addressed in a
 438 new GLWQA. This was then followed by a productive back-and-forth discussion on each of the issues
 439 between the ENGOs and the governments. It resulted in a true dialogue and mutual exploration for the
 440 first time during the renegotiation process...This more reciprocal, substantive tone of these calls was
 441 in stark contrast to the previous webinars held in January and June. It more closely approached the
 442 type of engagement that all parties say they think is essential for a successful new Agreement."

443 Citizen engagement has been central in the Great Lakes regime, and relying exclusively on national
 444 governments for compliance ignores the potentially powerful role that citizens can and do play in
 445 environmental law and policy (Hall 2007).

446 In fact, the role of citizens with proven credentials to be engaged in the renegotiation process was
 447 clear recognized at the time of the last revisions to the Agreement. In 1987, John Jackson, then vice-
 448 president of Great Lakes United received an invitation from Joe Clark, then Canada's Secretary of
 449 State for External Affairs to be an observer on the renegotiation of the 1978 GLWQA (Manno 1994).
 450 Whether such engagement will be repeated in the 2011 renegotiation period the Parties have not
 451 revealed notwithstanding numerous requests both on the webinars and at the Canadian Stakeholder
 452 Advisory Panel (Krantzberg, per. obs.).

453 Effective sustainable management of a transboundary watershed system requires coordinated
 454 actions among governments. Chen (2008) states that this inter-state approach is important yet
 455 inadequate. "Policies and management plans developed by formal inter-state processes eventually rely
 456 on the implementation at local sites; hence community-based actions are critical to the effectiveness of

457 policies.” Chen advocates integrating community-based actions in watershed management, which will
 458 be complicated if citizen engagement and contributions to the renegotiation of the Agreement are
 459 superficial and limited. While a consensus and willingness to cooperate among the Parties to the
 460 Agreement is central to management of the Great Lakes watersheds, implementation of programs and
 461 plans must take place at the local level by enabling community engagement. Chen (2008) contends that
 462 it is impractical and inefficient for all interventions to be made centrally to protect ecosystem integrity.

463 **12. Requisites for Change**

464 A number of recent and significant voices agree that governance reform in the Great Lakes is
 465 critical to future ecosystemic recovery and well-being in the Basin and that any renegotiation of a
 466 GLWQA should produce substantive changes in the governance structure in the Basin (e.g. Krantzberg
 467 and Manno 2010, Jackson and Kraft Sloan 2008).

468 Botts and Muldoon (2005) called for “significant and rapid changes, the Great Lakes Agreement” or
 469 it will be “at the brink of irrelevancy.” Further, they contend that “the Great Lakes themselves [are]
 470 subject to an onslaught of existing and new threats without a binational regime in place to deal with
 471 them.”, consistent with the findings of Krantzberg and Manno (2010).

472 Although there is still a need for governance at the ecosystem scale, many policy makers recognize
 473 that some threats, such as persistent organic pollutants are a global problem that required a global
 474 response. The appropriate scale for the hands-on work of restoring the Great Lakes ecosystem,
 475 however, is at the local level where thousands of ‘Friends of’ organizations, local conservancies,
 476 beach stewards, and so on, represent a substantial and knowledgeable constituency actively engaged in
 477 clean-up and maintenance (Manno and Krantzberg 2008)

478 Several analyses undertaken by scholars, activists, and the IJC have recommended changes in the
 479 Great Lakes governance system. (IJC 2006, Botts and Muldoon 2005, ARC 2007b) Although they
 480 differ in a number of details, they converge on a number of features that would help build a
 481 governance framework around a set of clear responsibilities with means for concerned citizens to hold
 482 governments accountable. These include:

- 483 • Regular reporting on progress in achieving the objectives of the Agreement with indicators directly
 484 related to specific commitments;
- 485 • Independent third-party review of science to evaluate progress in meeting the purpose of the
 486 Agreement;
- 487 • Direct reporting by the IJC to Congress and Parliament, in addition to the current practices of
 488 reporting the U.S. State Department and the Canadian Departments of Foreign Affairs and
 489 International Trade;
- 490 • Methods for sub-national governments to share responsibility for the implementation of the
 491 Agreement.

492 More than two decades ago, Weiss (1989) contended that despite the lofty goals of the GLWQA, its
 493 implementation has been undermined by its sub-treaty status, as it was never subject to approval in the
 494 United States Senate, along with the absence of enforcement provisions. However, Markell (2005)
 495 points out that while the GLWQA lacks legally enforceable domestic status, it has given citizens an

496 increased role in shaping policy to address transboundary pollution in the Great Lakes (also Hall
 497 2007). A renegotiated GLWQA could increase the opportunity for public participation in decision-
 498 making, compensating to some extent, for the GLWQA's current failure to contain specific
 499 enforcement provisions. It is unlikely that a new agreement would be given treaty status, hence, as
 500 noted by Hall (2007), increased public participation would help to insure increased accountability on
 501 the part of both federal governments to comply with their joint responsibilities under the GLWQA.
 502 The current GLWQA has helped create an informed and engaged citizenry on both sides of the border,
 503 which could result in an increased role for citizen enforcement.

504 The degree of engagement in a future Agreement, from scope, issues of significant importance,
 505 governance and collaboration will hinge on a thorough analytical process, so far seemingly absent,
 506 coupled with real consultation, so far marginally evident. Previously, Krantzberg (2009) outlined steps
 507 that scholars have revealed lead to successful interjurisdictional negotiations, stating: "[A]prescription
 508 for renegotiating the Agreement to generate a revitalized and sustainable future mandates that science
 509 inform contemporary public policy, third Party Mediation presses for and coordinates a deliberate
 510 negotiation, and inclusive discourse and public engagement be integral through the process." Many of
 511 these steps are still absent, and the analysis presented here strongly suggests that the constituents of the
 512 Great Lakes regime voice their views critically, emphatically, and often. If the negotiators listen, we
 513 can collectively make the Lakes Great.

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