

GREAT LAKES REGIONAL COLLABORATION

Grand Traverse Bay Resort, Michigan

April 28-29, 2005

Day 1

Plenary Session (All Strategy Teams): 1:00 pm – 2:30 pm

Ben Grumbles of the U.S. Environmental Protection Agency (US EPA) welcomed all Strategy Teams to the plenary session of the Great Lakes Regional Collaboration (GLRC) meeting and introduced one of the hosts of the meeting: Derek Bailey. Mr. Bailey is the Tribal Council Secretary for the Grand Traverse Band of Ottawa and Chippewa Indians. Mr. Bailey welcomed everyone to the meeting and said a prayer on behalf of the teams' efforts.

Mr. Grumbles briefly summarized the purpose of the two-day meeting at Grand Traverse Bay and introduced two other hosts of the meeting: Linda Smyka, the Mayor of Traverse City, and Ken DeBeaussaert, Director of the Michigan Department of Environmental Quality's (MDEQ) Office of the Great Lakes. Mayor Smyka and Mr. DeBeaussaert made introductory comments expressing support for the efforts of the GLRC.

Mr. Grumbles described how the Strategy Teams were divided and invited the co-chairs of each team to provide a status report to the group.

Persistent Bioaccumulative Toxics (PBT) Strategy Team – Jim Zorn, Great Lakes Indian Fish & Wildlife Commission (GLIFWC)

Jim Zorn reported on the PBT Strategy Team's progress in developing a draft Strategy section. Key issues identified in the document include fish consumption, particularly in tribal communities, and the emergence of new chemicals of concern, such as endocrine disruptors, bromine, and chlorine. The PBT Strategy Team's goals have been adopted from existing documents, such as Lakewide Management Plans (LaMPs) and the Great Lakes Binational Toxics Strategy (GLBTS). Mr. Zorn directed participants to a handout describing how cross-cutting issues are being handled. He also noted that an ad hoc tribal caucus is available to help all Strategy Teams understand tribal issues.

Sustainable Development Strategy Team – Jan Miller, U.S. Army Corps of Engineers

Jan Miller explained the approach taken by the Sustainable Development Team. The team is challenged with translating sustainable development themes on a Basin-wide basis. Mr. Miller summarized the recommendations made by the team in its draft section of the Strategy document. Key themes within these recommendations include funding to subsidize activities, market-based solutions, and improved efficiencies.

Aquatic Invasive Species Strategy Team – Ken DeBeaussaert, Director, MDEQ Office of the Great Lakes

Mr. DeBeaussaert began by summarizing the issues that the Aquatic Invasive Species Team is charged with addressing. Team members have been partitioned into smaller groups to focus on specific vectors of aquatic invasive species introduction. The team's goal was to have vector reports completed by April 21. The Maritime Commerce team has not completed its final report but plans to work on it while in Traverse City.

Coastal Health Strategy Team – Don Zelazny, New York State Department of Environmental Conservation

Don Zelazny summarized the Coastal Health Team's primary focus areas. The team has decided to limit its focus to impacts on human health within the coastal zone area. It will not address environmental health impacts. Specifically, the team has narrowed the primary risks it will address to two areas: beach closures and water quality issues/drinking water restrictions.

Nonpoint Source Strategy Team – Charles Whitmore, U.S. Department of Agriculture, Natural Resource Conservation Service

Charles Whitmore described the content of the Nonpoint Source Team's draft Strategy section. The section identifies key stressors and issues driving the potential degradation of the Great Lakes. The team has established ten major goals and 35-40 objectives to address these stressors, but it plans to reduce the number of goals to five. Mr. Whitmore noted that the team's document calls for improving coordination with landowners, measuring and monitoring progress, building upon existing principles where applicable, and making decisions based on available information.

Areas of Concern (AOC) Strategy Team – Joe Koncelik, Director, Ohio Environmental Protection Agency

Joe Koncelik summarized the progress made by the AOC Strategy Team. Forty-three AOCs have been identified in the U.S. and Canada. The team's goal is to eliminate any beneficial use impacts for all AOCs. The team plans to build upon work that has already been completed. Mr. Koncelik noted that while no AOC has been delisted yet, progress has been made.

Indicators and Information Strategy Team – Steve Brandt, National Oceanic and Atmospheric Administration, Great Lakes Environmental Research Laboratory

Steve Brandt reported that his team has made significant progress over the last month. The issues being addressed by the Indicators and Information Team will provide a support structure for all of the other Strategy Teams. The focus of the team is to develop a regional strategy for strengthening decision support capabilities for Great Lakes restoration activities. Five key subsets of capabilities have been identified: monitoring

and observations, predictive research, indicators, data and information integration, and communication. Mr. Brandt closed by noting that a liaison has been created to discuss recommendations on research and monitoring with the other strategy teams.

Habitat/Species Strategy Team – Chuck Ledin, Wisconsin Department of Natural Resources

Chuck Ledin noted that the team's draft Strategy section spans only 3 ½ pages and contains four recommendations. The team used historical documents to identify work that has already been conducted. The team's ultimate goal is to help ecosystems become more resilient. Working toward this goal, the team has selected four main focus areas: tributary management, wetlands, nearshore areas, and the open lakes. Mr. Ledin pointed out that many cross-cutting issues exist with respect to habitat.

PBT Team Breakout Meeting - Afternoon Session

Attendees: (Phone) - Deb Jacobsen, Liz LaPlante, Carri Lohse-Hanson, and Dwain Winters; (In-Person) - Dale Phenicie, Matt Hudson, Paul Koval, Laura Rauwerda, Susan Boehme, Cameron Lory, Bill Brooks, Frank Ettawageshik, Ted Smith, Bill Ross, Jen Zewatsky, Diane Navarro, Sue Brauer, Molly Flanagan, Peter Landrum, Greg Peterson, Gary Gulezian, Jim Zorn, Seth Dibblee, Cindy Roper, and Alan Waffle

Jim Zorn began the session by asking Gary Gulezian to review the feedback that they received from a subcommittee of the Executive Committee. Jim explained to those on the phone that the Executive Committee has asked each team to condense its list of recommendations to five key actions. Therefore, the team will have to reconsider what it had originally planned to accomplish during the breakout sessions.

Gary summarized the previous day's meeting, during which an Executive Committee subcommittee reviewed the reports submitted by the eight Strategy Teams. Six of the eight teams were able to produce a report in the recommended format. However, there were significant inconsistencies in how the teams interpreted the various headings within the format. Teams did not adopt a consistent approach to addressing various issues and problems. In response, the subcommittee developed suggestions for how the teams can bring the reports together in a clearer and more consistent way.

Gary summarized the revised guidelines for summaries from the Strategy Teams, developed by the subcommittee on April 27, 2005:

1. Desired State – This section defines what the team hopes to achieve; it could include long-term goals or the team's vision.
2. Problem Statement – The draft submitted by the PBT Team on April 21 currently does an adequate job of documenting the problem with persistent toxic substances (PTS) in the Great Lakes.

3. 5 Top Recommended Actions – Each team was advised to develop five recommended actions. These actions should reflect those activities that are most significant over the next three to five years in terms of reaching longer-term goals.

Gary reviewed the items that need to be included in the Strategy document. The audience for this document is the Great Lakes community, including states, federal agencies, mayors, and tribes. The document must be written in terms that all audience members can understand. Many people will not read a 40 or 50-page report but will focus instead on the executive summary. Therefore, a great deal of effort needs to be devoted to the executive summary. Much of the text that was included in the team's April 21 Strategy draft will now be included in an appendix instead of the main document. Also, an introduction needs to be written for the recommended action section to describe the team's overall strategic approach and put the specific actions into perspective. This introduction may be used to discuss the team's general principles and overall approaches to the issues.

Bill Ross, the facilitator for the team's breakout sessions, added details from a meeting earlier that day with the Executive Committee. Bill noted that the Committee wanted to know 1) what quantitative results could be expected, 2) what costs might be associated with achieving the results, and 3) lead and collaborating partners for each action. Also, the actions should not all be requests for federal funding.

Jim requested reactions from team members on the new Strategy guidelines. Carri Lohse-Hanson suggested reverting back to the five categories used in version 3 of the Strategy draft and using an example from each category to represent the team's key recommendations. Ted Smith responded that it would be an interesting way to categorize the recommendations, but the team should consider other options before automatically reverting back to that format. Ted then suggested that the team discuss how it intends to prioritize its top five recommendations and how the criteria put forth by the Executive Committee might serve as the foundation for that prioritization.

The team discussed how it would approach prioritizing the recommendations. Sue Brauer suggested voting on the 26 recommendations contained in the April 21 draft. Gary proposed looking at the implementing parties to make sure they include a mix of state, local, tribal, federal, and citizen responsibilities. Peter Landrum remarked that limiting recommendations to those that can make an impact over three to five years may be short-sighted. Gary responded that the recommendations do not have to produce results within five years; rather, they should represent near-term opportunities for programs that can be initiated within this time span. Jim suggested using the elements mandated by the Executive Committee to identify the key recommendations.

Multiple team members supported the notion of including one recommendation that deals exclusively with information. Molly Flanagan suggested identifying ways that information can lead to pollution prevention. Carri and Bill Ross pointed out the importance of keeping the Indicators and Information team apprised of issues that the PBT Team wants to recommend.

Other prioritization strategies were suggested by team members. Ted proposed identifying the five largest problems and considering which recommendations might have the greatest impact on those problems. Carri proposed using inventories to identify the largest pollutant sources. Dwain Winters responded that the size of the source does not necessarily reflect the size of the problem. Seth Dibblee suggested asking each person at the meeting to identify the issues they view as top priorities.

Bill noted that the team would probably have to bundle recommendations from the April 21 draft into five categories. He advised that the team take five to ten minutes to review each of the 26 recommendations in an effort to determine which ones are worthy of inclusion in a bundled category. After this review, Bill suggested, team members would be better prepared to vote on individual recommendations.

The team began reviewing the 26 recommendations included in the draft Strategy. These discussions are summarized below:

Reduction Actions – National

1. Fully fund and implement existing statutory programs to address nation-wide emissions of PTS through permitting, compliance and enforcement.

The group generally agreed that this recommendation is too broad to stand alone. Molly suggested that it could be improved by naming specific programs that should be implemented. Carri commented that the request for funding and implementation of existing programs seems unnecessary but noted the importance of discussing air emissions in one of the final recommendations.

2. Discontinue use of PCB electrical equipment, consistent with the Stockholm Convention.

Discussion of this item focused on the Stockholm Convention and the results that could be expected from accelerating the phase-out of PCB-containing equipment. Gary noted that the 25-year timeframe of this recommendation would be unlikely to significantly impact the U.S. or Canadian program. The group decided that this recommendation may not be as cost-effective as other activities (e.g., sediment remediation).

3. Promote, improve, and expand national non-regulatory pollution prevention programs such as Green Chemistry and Engineering, Design for the Environment, the Green Suppliers Network, and Environmentally Preferable Purchasing.

The group discussed what funding sources and implementing organizations would be associated with this recommendation. Several team members remarked that a national approach would be necessary to organize these programs. Gary suggested creating a bundle of pollution prevention (P2) recommendations in which the programs could be included. Ted noted that there is currently a great deal of activity on non-regulatory programs at the federal level.

4. Assure adequate funding for remediation of Superfund Sites and other legacy (i.e., historically contaminated) sources both within and outside the Great Lakes Basin.

Sue Brauer advised combining this item with recommendation #1. Dale Phenicie noted that the AOC Strategy Team is supposed to be addressing this issue. Gary suggested that the PBT Team co-chairs talk with other co-chairs to make sure the issue is being covered.

Reduction Actions – Great Lakes Basin

5. Provide capacity funding to agencies and organizations that carry out Great Lakes PTS reduction activities.

Carri noted the importance of capacity funding for the US EPA, states, and other organizations. Ted remarked that this issue should be included among other principles in a lead-in paragraph but may not be strong enough to stand alone. Jim noted that this issue is important for tribes, since they have no alternative funding sources. Gary emphasized the need for greater specificity in this recommendation.

6. Ensure collection and proper disposal of household garbage in all Great Lakes communities.

Matt Hudson suggested combining this item with recommendation #12 or with education and outreach activities. Dale responded that this item is qualitatively different from education and outreach, since no infrastructure is in place to address alternatives to garbage burning. Several team members noted the importance of this issue, as open burning is emerging as one of the most significant sources of dioxin. The group also briefly discussed recent surveys of residents who have practiced open burning.

7. Ensure that household hazardous waste collection and recycling programs, including electronic waste, mercury clean sweeps, and pesticide clean sweeps are routinely available to all Great Lakes communities.

Peter Landrum suggested combining this item with recommendations on pollution reduction or P2. Gary noted that this recommendation could be supported at a local level. The group discussed the distinction between household and business waste. Ted suggested including all sources of waste in this recommendation.

8. Institute a Great Lakes Basin-wide surveillance program to assess the presence and significance of contaminants in final wastewater treatment plant effluent, sewage sludge, and affected tributaries.

Cindy Roper asked for clarification of this recommendation. Ted responded that the language is still being developed by representatives of US EPA's Office of Water. He further explained that a systematic approach is needed to identify the threats associated with discharges from wastewater treatment plants and to determine how these threats can

be addressed. Since the item deals predominantly with emerging pollutants, Gary suggested adding it to an emerging pollutant bundle that would include surveillance activities coupled with appropriate responses if problems are detected.

9. State EPAs/Mercury Air Rule Options [placeholder]
 - GLB Trading Scheme
 - State rules with deeper cuts (e.g., New England Governors Agreement)
 - Meeting to determine how cuts will be made

There was extensive discussion on the issue of mercury emissions. Paul Koval suggested that the team focus on five recommendations that are likely to be accepted by the Executive Committee and questioned whether the subject of mercury emissions is too controversial to be included. Molly felt strongly that mercury should be discussed if it is a significant source of contamination to the Great Lakes. Ted noted that the recommendation would have to be state-driven, since the team cannot make a suggestion to change a federal rule. Some team members felt strongly that mercury emissions from coal-burning utilities should be mentioned, while others thought the issue was too politically sensitive. Gary suggested that the team include a statement that mercury emissions need to be reduced, especially those that lead to deposition. A suggestion was made that the Great Lakes States consider approaches to implementing the Clean Air Mercury Rule that would achieve deeper reductions than required.

10. Duplicate of recommendation 3.

This recommendation is the same as the third, so it was not discussed again.

11. Encourage mercury product reduction pilot projects and adoption of successful pilots throughout the basin.

Bill Ross suggested dealing with this recommendation when the team deals with mercury-in-air issues. Cameron Lory questioned why the recommendation focuses only on products containing mercury. Dale responded that there are no other PBT-containing products on the market. Bill remarked the Green Chemistry programs are designed to tackle such issues. Peter proposed adding the concept of life-cycle analysis of products to this recommendation. Susan Boehme added material flow analysis as another related concept that should be included.

12. Develop a Great Lakes Pollution Prevention and Education Outreach Fund to support critical State PTS programs...

Team members discussed the feasibility of recommending a P2 and Education Outreach Fund. Ted noted that the recommendation is intended to support programs that have historically been underfunded. Matt Hudson remarked that this item could act as a basis for bundling the P2 issues the team has been discussing. Peter noted a similar fund, the Great Lakes Protection Fund, was developed by the Great Lakes Governors. This fund has become self-sustaining and could serve as an example of a successful funding effort. Gary proposed finding out whether settlements from enforcement actions could serve as a

funding source; if so, a portion of these settlements could be set aside and dispersed as necessary to finance P2 activities.

13. Provide “bundled” State technical assistance services to small and medium size businesses for compliance assistance, pollution prevention audits, and energy efficiency audits in a “one stop shop” program.

Ted noted that this recommendation would not require funding; it is more of an organizational suggestion. Susan suggested bundling it with non-regulatory programs as part of a P2 bundle.

14. Develop a P2/E2 revolving low-interest loan fund to help finance pollution prevention and energy efficiency projects.

Cameron suggested looking for creative ways to frame the funding pieces. The Ohio air quality development authority does a lot of this.

15. Establish a Great Lakes Reduction Toxic Exchange, patterned after the Climate Exchange, for companies to trade and purchase “environmental credits”.

The group decided to eliminate this bullet, since the group could not justify advocating an exchange program for substances that may be harmful in small amounts.

At this point, the team separated for dinner and agreed to resume the meeting at 7 p.m.

PBT Team Breakout Meeting - Evening Session

As the group began to discuss the Information-Related Actions from the Strategy, Bill Ross recommended bundling the issues of indicator development and monitoring.

Information-Related Actions – Personal Responsibility

16. Develop and provide a consistent and easily accessible basin-wide message regarding the presence and possible health effects of PTS and ways to reduce their output. Topics would include mercury-containing devices, energy conservation, and trash burning.

Peter Landrum suggested that these issues are the same as those covered in recommendation 12. Cameron Lory agreed with Peter. Laura Rauwerda reminded the group that promoting the consistency of messages is an important function of recommendations related to public outreach. Laura advised that the idea of consistency be maintained in the bundled recommendation.

17. Develop and provide fish consumption advice that is consistent across the Basin and issue advice to citizens and health care workers in multiple languages.

Molly Flanagan noted the importance of being sensitive to various populations when communicating fish consumption advice. While it is important to distribute the same information to everyone, it may need to be communicated in various ways. Peter observed that each state has its own methodology for developing fish advisories and that there has been an outcry from individuals to develop a consistent methodology throughout the Great Lakes Basin. Ted noted that a uniform fish advisory protocol is already under development, which may render this recommendation unimportant. Ted proposed referencing this protocol within the recommendation, adding that a more important issue may be adequate funding of fish advisory programs. Gary Gulezian remarked that there is likely a need for more consistent fish consumption advisories. Susan Boehme suggested incorporating a method of evaluating whether fish advisories are working into this recommendation. Matt Hudson noted that the FDA standards for sale of commercial fish are quite different from the fish consumption advice being issued by states (with the exception of mercury). Matt also pointed out that there is often a disconnect between the advice being disseminated by environmental organizations and the advice given by health care professionals. Jim Zorn explained how his organization deals with fish consumption advice. His group focuses on directing people to cleaner lakes so that they can eat more fish. Jim suggested that the cross-cutting issue of human health be addressed in this recommendation. Gary questioned the significance of different fish consumption advisory levels in terms of human exposure. He noted that it may be more important to focus on the communication of advisories that do exist at the state level (e.g., communicating in languages people understand).

Information-Related Actions – Knowledge to Improve Decision-Making

Recommendations 18 through 26 were discussed concurrently.

Bill Ross asked the team whether these recommendations should be bundled or whether they should be considered as discrete entities. Peter responded that these recommendations could be bundled and noted that research (e.g., model development) and monitoring are key elements that should be included in the bundle. Peter also commented on the importance of developing models that demonstrate what can be expected in terms of exposure and what should be done in terms of response. Gary raised the question of whether the PBT Team should consult with the Indicators and Information team to see if it has included similar recommendations.

Bill questioned how much funding would be needed to address the information-related actions. The group was unable to specify a figure but agreed that it would be very expensive to develop and implement models for existing and emerging chemicals in the Great Lakes Basin.

The team briefly discussed the degree to which the information-related actions apply to emerging vs. existing chemicals. Gary noted that chemicals of emerging concern are

higher in priority because so little is known about them. Ted added that a systematic method is needed to fill in knowledge gaps for those substances for which minimal information exists. The team agreed to create a bundle specific to emerging chemicals that includes information/discovery elements, as well as response elements. Once this bundle has been developed, the co-chairs will share it with the Indicators and Information Team.

The team discussed where the remaining information-related actions would fit in the bundled recommendations. Recommendation 22 was eliminated. Ted commented that recommendation 24 deals with the accuracy of inventory programs; Susan suggested that it be bundled with the P2 recommendations. Recommendation 25 was deemed suitable for various bundles, including both emerging and existing chemicals. Gary noted that the Indicator and Information Team had included the concept of a central information repository as one of its major themes. Recommendation 26, which called for international involvement in PTS monitoring programs, was grouped under the placeholder for international issues. Jim noted that the issue of international collaboration may be addressed in the executive summary or an introductory paragraph, since it is such an important concept.

Bill Ross asked the group to identify items that are currently missing from the list of key recommendations. Linda Roper suggested noting the importance of eliminating subsidies to activities that promote pollution. She suggested reviewing existing programs and funding sources to identify those that perpetuate the cycle of pollution instead of asking for funding of new programs. Ted suggested adding the concept of integrating voluntary or pollution prevention programs into regulatory programs. Dale Phenicie responded that there would need to be some sort of justification for doing so; specific substances would have to be listed, as well. Dale and Peter commented that a bundle of P2 recommendations would seem to cover this issue, since these recommendations would advocate new approaches to P2 as part of an overall strategy to reduce emissions.

Bill Ross listed likely categories of recommendation bundles, based on the team's discussions thus far:

1. Funding (for statutory functions, voluntary programs, and information-gathering efforts)
2. Emerging chemicals (understanding them, modeling their potential significance, and thinking about how to deal with them)
3. Existing chemicals (dealing with products and practices that release dioxins, PCBs, and mercury into the environment)
4. Suite of P2 activities, some of which have the ability to stand alone
5. Responsible party issues (i.e., who should be in charge)

Bill asked others to list their concepts of the recommendation bundles that evolved from the afternoon and evening sessions. Susan compiled the following categories: 1) Proactive actions, 2) Reactive actions, 3) Specific contaminants, 4) Education and outreach, and 5) Inventory programs. Laura Rauwerda read her list, which included: 1)

Measure, 2) Reduce, 3) Eliminate, 4) Replace, and 5) Inform. Gary Gulezian's list included: 1) Pollution prevention, 2) Existing chemicals, 3) Emerging chemicals, 4) Outreach, and 5) Information (research/monitoring/inventories). Sue Brauer's categories were as follows: 1) Environmental regulations, 2) P2 for existing chemicals, 3) P2 for emerging chemicals, 4) Household waste issues, and 5) Monitoring/indicators/data management. Cameron Lory suggested adding a funding category. Susan noted that the team also needs to consider "lessons learned." Gary remarked on the importance of continuing the GLBTS for both existing and emerging chemicals.

Bill polled the group on recommendation categories for inclusion in the Strategy. The group tentatively agreed upon: 1) education and outreach, 2) emerging chemicals, 3) existing chemicals, 4) prevention and reduction, and 5) research/information/monitoring.

Day 2

PBT Team Breakout Meeting - Morning Session

Attendees: (Phone) – Dwain Winters, Carri Lohse-Hanson, Melissa Hulting, and Beth Murphy (Melissa and Beth joined the meeting via phone just prior to the discussion of the fifth recommendation bundle)

(In-Person) - Dale Phenicie, Matt Hudson, Paul Koval, Laura Rauwerda, Susan Boehme, Cameron Lory, Ted Smith, Bill Ross, Jen Zewatsky, Sue Brauer, Greg Peterson, Molly Flanagan, Peter Landrum, Gary Gulezian, Jim Zorn, Seth Dibblee, Mike Murphy, and Alan Waffle

Bill Ross began the morning session by summarizing the team's progress. The team had come to the conclusion that information needs – particularly, being able to anticipate emerging chemical issues and evaluate programmatic progress – were mainly a package of actions rather than a series of discrete activities. Prior to the morning session, Bill met with the PBT Team co-chairs and Ted Smith to brainstorm a list of potential recommendation bundles. Bill suggested that the team spend the morning reviewing the bundles and developing specific expectations with respect to each one (e.g., anticipated results, measures, costs, and responsible organizations/parties).

Bill and Gary Gulezian described the five recommendation bundles developed prior to the morning session, as follows:

1. Finishing the Job – focuses on existing chemicals (mercury, PCBs, dioxin/furans); Gary stressed the need for action-oriented and programmatic tasks in this bundle (e.g., a Mercury Care Program)
2. Getting Ahead of the Curve – provides a systematic approach to preventing new chemicals from creating the kinds of problems that existing PTS have created.
3. Knowing What We Need to Know – focuses on filling in knowledge gaps; includes monitoring, modeling, and understanding the ecosystem and pollution sources, fate, and exposure

4. Empowering the Public's Choices – deals with providing adequate education and outreach information to the public
5. Beyond the Basin – addresses the international aspects of PTS issues and provides a mechanism for cooperating with other countries and other regions within the U.S. but outside the Great Lakes

Gary noted the importance of working with Canada to address persistent toxics. He suggested making a recommendation that actions be taken through the GLBTS, particularly with respect to the first two bundles.

Jim Zorn requested comments from the team on the approach just described. Carri Lohse-Hanson observed that the categories seemed reasonable and asked if a new "Principles" section would be developed for the Strategy. Jim responded that principles will emerge as the team discusses the bundles; these concepts may be included in the executive summary, as well as in the introductory paragraphs to be developed by the Drafting Team. Seth Dibblee suggested keeping a running list of principles.

Bill asked the team to discuss the five recommendation bundles with an eye towards defining results that might be expected from each one within the next three to five years.

1. Finishing the Job

Sue Brauer pointed out that there is a need for more comprehensive toxicity reviews. Mechanisms that can be used to do this include the Safe Drinking Water Act (SDWA) and the Toxic Substances Control Act (TSCA). Sue noted the lack of consistency in current toxicity reviews of existing or emerging chemicals.

Carri Lohse-Hanson suggested that the LaMPs and GLBTS could play a role in this recommendation, since these organizations identify critical chemicals. Sue countered that these organizations do not identify chemicals to be monitored; nor do they conduct toxicity studies. Carri noted that the LaMPs and GLBTS have developed reduction schedules. The group discussed the reduction targets that have been developed through LaMPs and whether a mechanism exists to monitor and assess progress toward these targets.

Ted Smith shifted the conversation to the comments received by John Gilkeson on the topic of mercury. Ted questioned whether the team wanted to make a strong statement about the states' commitment to mercury reduction. Gary suggested finding out if the commitment is there first.

In an effort to move from abstract discussion to concrete recommendations, Gary summarized the topics that should be covered in the first bundle. Key actions are detailed below:

- 1) Dioxin/furans – it will be important to discuss emissions from uncontrolled combustion in terms that people will understand (e.g., burn barrels)

- 2) Mercury – there should be a discussion of a mercury care package and the willingness of states to adopt standards for power plants that go beyond the minimum federal requirements
- 3) PCBs – it is important to address cleanup of legacy sources, as well as the phase-out of PCB-containing electrical equipment

Susan Boehme suggested addressing pesticides in the first bundle. Gary responded that a discussion of banned pesticides might be appropriate and suggested including “clean sweeps” and legacy source cleanups to deal with these chemicals.

Bill asked the group to consider the issue of costs related to this bundle. Jim noted that people should consider whether current programs are sufficiently funded to perform the required work and, if not, how much more funding would be required.

Mike Murphy, a tribal representative, noted that a major issue from a tribal perspective is the presence of mercury in fish. However, the first recommendation fails to discuss coal-fired utilities, which are a major source of mercury emissions. Jim suggested putting a placeholder in the recommendation for coal-fired utility emissions. Dale Phenicie noted that not everyone agrees with the perceived impact that coal-fired utilities have on mercury emissions in the region. Gary suggested stating in the report that coal-fired power plants are a major source of mercury and will have to be addressed. The drafting team will be responsible for crafting the exact language to be used in the Strategy.

Dwain Winters pointed out that hexachlorobenzene (HCB) should be included on the list of legacy chemicals discussed in this first recommendation.

2. Getting Ahead of the Curve

Bill asked the group to consider what needs to be done with respect to emerging chemicals. Peter Landrum responded that Green Chemistry and P2 principles are important to this category. Susan suggested adding material flow analysis and life cycle analysis.

Dwain noted that most emerging chemicals are not “new,” but little is understood about their effects on the environment. Ted added that there are two separate issues to be addressed with respect to emerging chemicals: 1) preventing dangerous new chemicals from being used in commerce, and 2) designing appropriate surveillance and monitoring programs to find out more about chemicals already in the environment. Dwain responded that very few new chemicals have slipped through the US EPA’s screening mechanisms within the past 10 to 15 years.

Gary suggested that a systematic approach is needed to deal with chemicals of emerging concern. Issues that need to be considered include toxicity and exposure information and opportunities to use alternative substances. The success of this approach will depend on the ability of national and Great Lakes programs to cooperate effectively. Gary proposed

that the GLBTS be used to further develop this approach. New specialists would be needed to participate in the GLBTS, since this group has not yet worked with emerging chemicals.

Laura Rauwerda remarked that the issue of sustainability should be included in this recommendation bundle.

Bill asked the group to consider likely results of this bundle within three to five years. Gary suggested that a program could be developed that: 1) describes the interface between national and Great Lakes efforts, 2) describes how the Great Lakes region is going to use toxicity data and other types of assessments, and 3) begins to apply this data to circumstances in the region to see whether or not a problem exists. Ted recommended relying on rapidly developing computational capabilities to screen chemicals and inform surveillance programs.

Bill questioned who would be responsible for managing this program. Ted suggested that it would be a federal (US EPA) responsibility. Sue noted that states are already making strides in some areas (e.g., developing water quality criteria that exceeds US EPA requirements) and could play a key role, as well. The group agreed that state cooperation will be necessary to conduct these actions effectively.

The group discussed costs related to this approach. There was general agreement that additional funding would be needed to further develop these activities. However, Seth noted that some activities will be low-cost and that programs will not need to be built from scratch. Seth does not feel that a significant dollar amount will be associated with this bundle.

3. Knowing What We Need to Know

Peter Landrum submitted written suggestions on this subject to Ted. In his notes, Peter proposed the development of a center to coordinate and apply data and to help provide modeling results to decision-makers. Peter also noted the need for development of models that would provide information about the state of ecosystems in the past, present, and future.

Dwain remarked that the mere linkage of national and regional information will not be sufficient to close current information gaps. Dwain explained that researchers still lack a fundamental understanding of pollutant sources and pathways and how these contribute, quantitatively, to exposure. The sheer magnitude of the task of gathering this information would require a major federal role; however, there would also be roles for industry, academic institutions, and the states. Ted asked Dwain if a new federal function or program would have to be implemented to fulfill this goal. Dwain responded that organizations are already in place to fulfill some of these responsibilities.

The group discussed funding requirements and the role of various organizations in Dwain's suggestion. Peter noted that the federal programs already in place do not necessarily work together; to implement the needed level of collaboration would require some additional funding. Dwain proposed that to deal with the existing chemicals (e.g., mercury and dioxin), approximately \$10 million would be required over 10 years. Peter noted that such an initiative would be more likely to cost \$5-\$10 million per year. Gary suggested that the GLBTS could play a significant role in coordinating this effort.

The group also discussed the activities that would be included in the proposals put forth by Dwain and Peter. Their recommendation calls not only for data coordination but also for the generation of new data and models. Gary suggested adding baseline monitoring and surveillance. Susan noted that monitoring is happening in many areas, but the data being collected (e.g., detect/non-detect records) are not useful for modeling. Bill suggested approaching the Indicators and Information Team with the need for additional baseline monitoring.

The group agreed to let the Drafting Team flesh out the ideas related to data management and find out what the Indicators and Information Team is proposing in this area. Ted questioned whether the institution of other monitoring recommendations made by the PBT Team in the April 21 Strategy draft, such as a human biomonitoring program and a wastewater treatment plant effluent monitoring program, should be suggested to the Indicators and Information Team for inclusion in its section. Gary responded that these actions should be stated in the PBT Team section if the team feels they are important.

4. Empowering the Public's Choices

Matt Hudson began the discussion by noting the importance of conveying the message to the public that daily choices are important. He noted that coordination from a higher level will be needed, but the real work (e.g., getting information out to health professionals) will take place at a local level. Gary mentioned the U.S./Canadian Great Lakes Human Health Network, which was created under the GLBTS executive committee to engage health professionals in discussions about fish consumption advisories. Cameron Lory remarked that messages have to be more consistent; municipalities are still engaging in activities that citizens are being asked to stop doing.

The group discussed the types of activities that would be included in this recommendation bundle. This bundle would not focus on chemical management; instead, it would focus on engaging Great Lakes-area residents and making them aware of the choices they have. A main goal of this bundle would be to promote participation and evaluate the success of outreach programs. Matt noted that the cross-cutting issue of sustainability could be included in this bundle. Carri suggested assessing what other actions could be taken to translate information into responsible behaviors. Susan advised that these recommendations be tied to monitoring. Laura proposed investigating opportunities for mentoring partnerships between successful programs in the basin.

Laura also pointed out that the power of consumer choices should be considered as a function of PTS reduction.

Bill asked the team to summarize what results could be expected from this bundle. Gary responded that polls, like the one that has already been conducted in the Lake Superior region, can be used to evaluate the attitudes and behaviors of residents in the Basin with respect to some of these issues. These polls can be repeated at a specified frequency to see if attitudes and behaviors change. Dwain responded that it would be too difficult to link behavior changes to outreach activities.

Jim stressed the need for this bundle to address the human health component from the perspective of sensitive populations (e.g., tribes) that rely on natural resources of the Great Lakes for subsistence.

The group discussed potential implementing organizations for this bundle of recommendations. Cameron remarked that a public/private partnership could be effective in communicating outreach information. Ted noted that many programs are currently responsible for communicating these messages throughout the basin; he suggested that the recommendations would be more effective if they focused on identifying the funding needs of these programs. Several people suggested that affected parties (e.g., tribes, industry, non-governmental organizations, and others) would need to provide recommendations about specific needs, funding requirements, and options for conveying educational information to both the general public and sensitive populations.

Due to time constraints, Gary reviewed the team's schedule and next steps prior to discussing the fifth recommendation bundle. The final draft of the team's Strategy chapter is due May 27, 2005. A PBT Team call is scheduled for May 11, but Gary suggested scheduling another Drafting Team call prior to the team call. Ted responded that the Drafting Team can hold a conference call on May 4.

5. Beyond the Basin

The group discussed the importance of national issues and of Canadian participation in reduction efforts. Carri suggested that this would be an appropriate place to include information about mercury emissions from coal. Gary responded that coal is not the only source of international mercury emissions. He also noted that it is important for the team to publicize that most of the deposition within the basin comes from outside the basin (both national and international sources). There is a need for information regarding the impact of sources outside the basin. Melissa Hulting noted that one of the action items recommended in the Strategy called for support of monitoring programs developed by the Commission for Environmental Cooperation (CEC) and the United Nations Environment Programme (UNEP).

Dwain noted that international agreements have been developed for several chemicals and that Congress needs to ratify these agreements. Gary agreed that support for ratification and implementation of international agreements should be included.

The group discussed potential responsibilities and funding needs for this recommendation bundle. Seth suggested that the US EPA would be responsible for complying with international treaties. Gary proposed that the GLBTS could serve as the lead implementing organization for this bundle. Regarding funding, Dwain indicated that to address all pollutants, a \$10 million initial payment likely would be needed. This amount would taper off in subsequent years.