FLOW 2008: ACTION PLAN

Drafted by Professor Larry Susskind, *FLOW 2008* Lead Facilitator – 10.9.08

Clarifying Edits by Kathleen Williams[1]

At its 2008 Conference in San Antonio, the Instream Flow Council (IFC – www.instreamflowcouncil.org) tapped the knowledge and experience of more than 330 professionals from across North America to craft an Action Plan to improve instream flow problem-solving in the U.S. and Canada.

IFC requested conference facilitators to develop and implement a process whereby: "… conference participants will contribute to a document that … summarizes what a broad community of interested and involved instream flow practitioners considers to be the primary obstacles and opportunities related to improving instream flow/water management problem-solving in the U.S. and Canada, and … includes an action plan (with hows, whos, and whens) created by that community to move the discipline forward." The pre-conference survey and its results (http://www.instreamflowcouncil.org/flow2008/survey_summary.pdf) were intended to lay a foundation for the facilitation process. The Action Planning process began with interactive listing and prioritization of obstacles to, and opportunities for, improved problem-solving in the U.S. and Canada. Several interactive sessions followed, focused on developing and refining the Action Plan. The facilitators presented a "draft" Plan, allowed participants to individually comment on their copy, then asked the group to endorse (by standing) the draft Plan as they had edited it. Most stood. After the conference, the written comments were reviewed by IFC staff and, where needed edits were obvious (e.g., typos, spelling out acronyms, adding explanatory footnotes, etc.), or there was strong agreement (and no disagreement) amongst commenters, the Plan was edited accordingly. This version was posted on IFC's website and sent to participants, and another version with the remaining comments was also posted (see http://www.instreamflowcouncil.org/flow2008/docs/Action-Plan-long.pdf).

It should be noted by all that this is NOT the IFC's "Plan" (though IFC will likely use it in many ways) – it belongs to the *FLOW 2008* participants who created it. We hope it is useful as those many and talented practitioners and stakeholders continue to further the instream/environmental flow discipline in their work and advocacy.

This Action Plan is divided into three parts. The first explores better ways of using science to manage water resources. The second examines strategies for strengthening public policy and enhancing public dialogue to ensure adequate instream flows. The overarching goal in both cases is to ensure that instream flow problems can either be avoided or resolved effectively. The third section of the Action Plan summarizes the ways in which participants from five different regions imagine they might advance the implementation of this Plan.

[1] In consultation with the IFC *FLOW 2008* Planning Team

Part I: Better Ways of Integrating Science into Policy and Public Dialogue to Solve Instream Flow Problems

With regard to the use of science and scientific analysis most of the participants in the *FLOW 2008* conference agreed on five recommendations.

Recommendation #1: ENHANCE AND USE BIOLOGICAL RESPONSE MODELS

Set parameters that define healthy rivers and lake systems. Expand the use of **biological response models** in setting these standards and link these to natural hydrological regimes whenever possible. Use basin by basin and river by river analyses to **establish instream/environmental flows**.

Who can do what to help?

1. Responsible federal, state/provincial, regional/basin[2], and/or tribal agencies should acquire the biological and hydrological data needed to develop biological response models. States should work with U.S. Geological Survey (USGS) and universities to classify streams based on hydrology and geomorphology. A working group of states, provinces, regional and federal agencies, along with representatives of universities, non-governmental organizations (NGOs), and professional associations should conduct an inventory of existing biological response models.

2. University and agency partners should collaborate to conduct the research needed to develop and refine these models. This research should look at responses to flow regimes, not just low flows, and seek to quantify the uncertainty and variability involved.

3. Scientists should organize oversight committees (technical advisory committees) to assist in these efforts.

4. Interdisciplinary teams should finalize, implement and proof these models. This should include improving the precision and accuracy of ungauged stream flow models for making site specific estimates and improving geographic information system (GIS) capacity to integrate all ecological data at the same locations at the same scale.

5. States/Provinces should work with The Nature Conservancy (TNC), Trout Unlimited (TU), USGS, the U.S. Fish and Wildlife Service (USFWS), and others to design and conduct studies to improve biological response curves and identify the best biological and hydrological variables for understanding and communicating biological response to stakeholders.

6. Refer to and adhere to National Fish Habitat Action Plan Science and Data Report Collection, analyses and reporting criteria (www.fishhabitat.org). Also, resurrect, maintain, and add stream gauge, well logs, and lake/reservoir continuous measurement devices.

[2] Where applicable in the remainder of this document, reference to state/provincial authorities or agencies also includes reference to applicable regional and/or river basin authorities or agencies.

7. The IFC or others should establish criteria and standards for uniform monitoring based on a biological model that can be applied nationally, with regional adjustments.

What technical and institutional resources are available?

1. The USGS Hydrological Integrity Assessment Process (HIP).

2. USGS National Water-Quality Assessment (NAWQA) Program, Ecological Limits of Hydrologic Alteration (ELOHA) framework, university and state sampling databases.

3. Science and data report for the National Fish Habitat Action Plan.

4. Fisheries Co-op Programs can share information on complex modeling and Army Corps Hydrologic Engineering Center (HEC) modeling.

5. Natural heritage databases can be helpful.

Recommendation #2: **DEVELOP REGIONAL INSTREAM FLOW CRITERIA**

Where stream-by-stream criteria cannot be developed in time for adequate protection, develop **regional instream flow criteria for use by stream type**. This must be done in a scientifically credible way that ensures adequate environmental flows. In addition, sufficient flexibility must be maintained so that site-specific concerns and adjustments can be made.

Who can do what to help?

1. Resource agencies, working on a river basin-by-basin basis, should characterize biological and physical aspects of streams within each region. Then, in conjunction with a range of partners, interstate commissions or basin watershed managers should develop instream flow criteria for managing each defined stream type in each region and be prepared to verify the efficacy of these criteria over time.

2. Stakeholder meetings should be organized, perhaps through Watershed Committees or Watershed Planning Groups, to refine the criteria developed in (1) above. These meetings should seek to generate procedures for approving deviations from established targets.

What technical and institutional resources are available?

1. Existing planning efforts at the federal, state/provincial and local levels should yield helpful information that can be used to support implementation of Recommendation #2. Local knowledge should not be ignored.

2. A literature review of existing studies (i.e. of existing habitats and flow relationships) would be helpful.

3. Peer review by applied scientists should be emphasized to enhance the value of (1) and (2) above.

Recommendation #3: ENCOURAGE INTEGRATED LAND USE AND WATER MANAGEMENT

Encourage **integrated basin-wide land use planning and water management**. Use of common maps, codes and measurement scales will facilitate integration. Integration will depend in large part on setting and enforcing sustainable surface and groundwater demand limits.

Who can do what to help?

1. States and provinces can develop integrated permitting systems that take into account a wider range of impacts than have been acknowledged in the past. They should also emphasize cumulative impacts in ways they have not in the past. The overall aim should be to develop new regulations that maintain hydrological integrity (including impervious surface limits, infiltration and storm water controls, recharge requirements and the like). This is unlikely to happen unless public agencies with regulatory authority find effective ways of engaging the full range of stakeholders in assessing the advantages of integrated land use planning and water management.

2. Governors may want to appoint members to new regional planning entities (or add new members to existing ones) to encourage integration of land use planning and water management. To the extent that statutory changes are required to support efforts to link land use planning to water management, executive and legislative branch cooperation may be required to generate appropriate enabling legislation.

3. Water districts can help by determining water availability and conditioning future development on water availability as well as encouraging restoration through conservation and reallocation.

4. Regional planning agencies can help to implement the state and provincial permitting requirements indicated in (2) above. They should work to establish regional growth management plans based on projected water demand and availability. They should also seek to review all development permits on a basin-by-basin basis or a watershed basis in a consistent time frame and to consider cumulative impacts. Regional agencies may need financial incentives and support to make this happen.

5. Academics who specialize in cross-jurisdictional data management (i.e. National Science Foundation Long Term Ecological Research (LTER-NSF)) have a role to play in implementing this recommendation.

6. IFC or others should organize a clearinghouse to gather and disseminate information about integrated land use and water management planning.

7. The US Environmental Protection Agency (EPA) and other federal agencies should encourage state agencies to move in the direction of integrated land use and water management planning.

What technical and institutional resources are available?

1. There is a great deal of technical information already available that needs to be organized in new and more effective ways including Federal Emergency Management Agency (FEMA)

maps, databases of land coverage, surface water and ground water data, aquifer maps, population and growth projections, Soil and Water Assessment Tool (SWAT) models, and other GIS systems.

2. Relevant state and local ordinances, as well as rules, regulations and guidance documents need to be gathered so that states, provinces and municipalities can learn how integrative approaches already in use in other places are working.

3. Case studies of entities like Florida's water management districts and New York City's negotiated agreements with upstate (Catskills) land owners may help other states, provinces and municipalities learn more about the steps involved in encouraging integration of land use planning and water management.

Recommendation #4: **DEVELOP BETTER TOOLS FOR ANALYSIS AND COMMUNICATION**

Better tools are needed, including integrated models and conceptual diagrams, geographic information systems, and effective graphics, to make it easier to communicate and analyze flow options in ways that are meaningful to citizens and decision-makers. All models must be tested and validated to ensure their credibility.

Who can do what to help?

1. IFC or others should work with a wide range of agencies to identify the most useful analytic and communication tools as well as the additional tools that are still needed.

2. State/provincial water agencies should budget funds to develop better tools for analysis and work with private and public partners to develop tools for enhanced communication of technical and scientific findings to the public.

3. Before more effective communication can occur, responsible agencies must learn more about how various publics perceive the risks associated with various biological/hydrological indicators.

4. New educational materials must be developed to help stakeholders better understand the relationships between bio-systems and hydrology.

5. Agencies must work with stakeholders – including those who do not have science backgrounds -- to translate scientific information on water flow options into "plain language."

6. Agencies should encourage joint projects with colleges and universities in various scientific and communication disciplines, inviting them to think of ways of reinventing or modifying various analytic and communication tools.

7. Public agencies must work to ensure that all the analytical and communication tools they use are subject to rigorous peer review.

8. Agencies should seek to generate systematic feedback from various stakeholders and public groups regarding the analyses and communication strategies that work best for them.

What technical and institutional resources are available?

1. There are good examples of stakeholder communication efforts that need to be documented so that others can learn from them.

2. IFC members need to commit the time and energy required to document best practices and identify the most useful tools for analyzing and communicating about instream flow.

3. Agencies should seek the assistance of social marketing and public relations firms to enhance their abilities to communicate with the public effectively.

Recommendation #5: DETERMINE WATER AVAILABILITY AND MINIMIZE THE HYDROLOGICAL IMPACT OF DEVELOPMENT

Require quantified estimates of water availability -- based on scientifically credible assessments of ecological need -- before allowing new development to proceed. Whenever possible, take steps to encourage low impact development that minimizes adverse hydrological effects.

Who can do what to help?

1. State and provincial governments may need to develop new legislation mandating credible estimates of water availability and requiring that low hydrological impact development options be given regulatory priority. This can only be done if states and provinces determine water availability based on scientifically credible estimates of availability after ecological needs have been addressed. State-sponsored web sites should be created that link all instream flow projects in each state and encourage the public to demand low impact development that minimizes adverse hydrological impacts. The only way that such efforts will be credible is if they are accompanied by the development of technically credible models for forecasting the impact of proposed development on instream flow and water demand.

2. Municipalities and county governments should seek to adopt development standards requiring quantified estimates of water availability and favoring low-impact development. They should use municipally-sponsored web sites to make information on water availability generally accessible via the internet.

3. Water supply authorities should prepare and encourage retrofit programs favoring green infrastructure and low water impact building design.

4. Irrigation/conservancy/groundwater districts can develop water distribution plans at the local level that favor low-impact development.

5. Applicants seeking land use and building permits should be encouraged to voluntarily submit credible quantified estimates of water demand associated with their proposals and demonstrate that they have incorporated low-impact building and subdivision designs. Applicants who make

such efforts should be granted more favorable responses to their permit applications (to the extent that permitting authorities have discretion).

6. Agencies and others should work with homebuilders and other developer organizations to encourage them to instruct their members on how to take better account of long-term water availability and instream flows in relation to their development efforts.

7. The Corps of Engineers, EPA and FERC should undertake regular monitoring efforts and report regularly on the extent to which scientifically-credible quantified estimates of water availability are being used and low water impact development is being encouraged.

What technical and institutional resources are available?

1. New models are emerging that can be used to forecast the impacts of climate change on instream flows and what these might mean for future land development.

2. USGS can provide flow records to establish baseline conditions.

Part II: Policy Improvement Strategies[3]

Management Strategies[4]

Provide incentives to reallocate water from existing uses to instream uses. Offer grants to encourage more efficient irrigation. Purchase or lease water rights from willing sellers, including land owners where land is not good for farming.

Develop institutions that integrate instream flow planning efforts. Examples include Ontario's conservation authorities and state councils of government. Organize water planning on a watershed scale. Encourage these new institutions to share costs between state and local governments in an effort to generate greater buy-in across scales.

Who should do what to implement these management strategies?

1. Lobby for federal, state and provincial laws that provide such incentives. For example, USDA offers incentives through the Farm Bill for land conservation. Modification of the Farm Bill might make it possible to use these funds to acquire water rights from willing owners. Also, the North American Waterfowl Management Plan provides money to buy land and water rights for habitat improvement. The National Fish Habitat Action Plan could provide funding to acquire important water and land rights for fish habitat.

[3] Part II is drafted in a different format than Part I (i.e., multiple unnumbered recommendations beneath five topical headings). Rather than attempting to reconcile formats and risk a resulting change in meaning, IFC staff left the format differences in place.

[4] Note that references to water rights, water right transactions, donated water, etc., in this section are primarily applicable to states/provinces with prior appropriation or stream allocation programs.

2. Provide state and federal funding to local organizations to purchase or lease water rights. For example, Columbia Basin Water Transaction Program might be a model for facilitating such transactions including the purchase of water rights. Catalogue incentives such as creative leasing option, dry year contracts, partial year or contingent contracts, and mitigation banks.

3. It would be easier to implement these management strategies if the government resolved some of the uncertainty over who has/retains the right to the conserved water.

4. Advocate changes in land use planning and zoning regulation (e.g., density bonuses?) in exchange for the set aside of water rights for instream use.

5. Tap non-governmental entities to broker transaction of water rights and handle water bank negotiations.

6. Link the availability of funding for the purchase of water rights to the formal adoption of instream flow targets defined using a system of common metrics of ecological integrity.

7. Create water trusts so that those with appropriations can contribute, thereby altering the "use or lose" mentality.

8. Extend federal tax credits to owners who donate water. Create a more organized and consistent means of determining the taxable value of water. A coalition of NGOs and agencies (TNC, TU, Sierra Club) should lobby Congress to ensure that such tax deductions are added to the law.

9. Create federal or state programs to support efforts to enhance the efficiency of irrigation. States and municipalities should create a partnership to fund water conservation efforts to share returned water to municipalities and instream flows. The goal would be to encourage more efficient irrigation and water use.

10. Local and state and federal agencies should implement a cost-sharing program for water efficiency. User fees should be established to assist in purchasing water rights.

11. Change FERC and National Environmental Policy Act (NEPA) baseline conditions so that it considers natural conditions, not existing development.

12. State and federal legislatures should develop watershed management districts and/or boost citizen oversight boards for the state and involve them in instream flow and public outreach.

Law and Policies[5]

Create or restructure a comprehensive legal framework to address water quality and instream flow.

Modify water law to address over-allocation.

---

[5] Comments on this portion of Part II indicated varied concerns and questions (see http://www.instreamflowcouncil.org/flow2008/docs/Action-Plan-long.pdf for comments).

Who should do what to implement these new laws and policies?

1. States and provinces should adopt legislation regulating instream flows if such laws are not already in place. They should also consider promulgating additional regulations and rules under existing legislation.

2. Convene a national resource council to prepare a collaboratively derived template for action. Members should be drawn from all stakeholding groups on a regional basis.
3. Consider national legislation in the United States (a Water Resources Management and Conservation Act) that would examine differences between Eastern and Western water policy and recommend state changes.

4. Such a legal framework would need to cover land use, zoning, utility and agricultural law as

5. Where still being used as instream flow criteria, we need legislation to get beyond 7Q10/NPDES (National Pollutant Discharge Elimination System) flows toward environmental flows.

6. Need a new system to adjudicate existing claims and rights in light of the need to meet water quality and quantity standards.

7. Provide authority to state water right administrative bodies to certify compliance with water quality standards and water quantity targets.

8. Federal legislation is needed to give more direction to states to develop hydro-ecological assessments (re. ELOHA approach).

9. The federal government should enact laws directing states to develop programs to address water quality and instream flow issues, based on river and basin needs. The legislation should provide the funding and other resources that states will need to implement their goals and establish deadlines for achieving milestones.

Information and Public Education

Develop or refine water curricula for schools. Use this as a means to encourage a long-term generational shift in appreciation for the importance of instream flow.

Bring together stakeholders to support specific policy changes and build support and alliances before taking issues or proposals to the legislature.

Who should do what to implement these information and public education suggestions?

1. Use public-private partnerships to bring together stakeholders at a watershed scale. We need more technical and passionate scientists interacting with the various state and provincial legislatures.

2. Create state offices of environmental education. Educate state agencies about their role as conveners of instream flow stakeholder processes.

3. Require natural resource classes in schools. IFC or others should partner with national entities (e.g., children and nature networks, Project WET (Water Education for Teachers), school districts) to develop/refine curricula that address the impacts of water use on ecosystems. This should be integrated into school curricula wherever possible. Include elements of math and science classes that explain how to calculate water footprints.

4. Organize summer programs and camps that focus specifically on water education and appreciation. Corporate sponsors and others should be sought along with federal funding.

5. Expand/Refine Project WET modules on instream flow.

6. Develop a video game to teach instream flow concepts: PhabSim City! Develop regional and national clearinghouse for the distribution of teaching modules on water.

7. Initiate a social marketing initiative. Build national awareness that there is a water crisis looming in portions of the US-Canada. Educate the public about the link between population demands and the availability of water resources. Educate the public about individual responsibilities and the consequences of their actions.

8. Create/Refine a water footprint calculator to show causes and effects. Educate through model communities.

Partnerships and Stakeholder Engagement

Develop regional and local water budgets that include instream flow needs; integrate these with the permitting process for new development.

Pursue proactive land use planning within water constraints, not "grow here and hope we can find water." Instead, ask, "Can the watershed and water source support additional growth and if so, where?"

Create stakeholder advisory groups and assign skilled facilitators to help them. Adopt approaches to stakeholder involvement that generate negotiated solutions that balance all interests.

Who should do what to implement these recommendations about partnerships and stakeholder engagement?

1. Where they do not exist, create combined land and water planning boards with oversight authority (granted by the legislature).

2. Encourage land use planning along watershed boundaries.

3. Where applicable, create regional water banks and regional water planning budgets. Screen projects at the watershed level. Identify stressed sub-watersheds. Categorize sustainability of water supplies in stressed sub-watersheds. Such collaborative efforts would require databases,

decision support systems and desktop instream flow need (IFN) standards to enable a process of developing water budgets.

4. Where they do not exist, create intrastate regional planning commissions that encourage and enable various levels of government at different scales to work together.

5. Create Environmental Flow Advisory Councils.

Research

Undertake large-scale coordinated research projects at multiple scales. Tackle research problems using multi-disciplinary groups of researchers.

Who should do what to implement research strategies?

1. Increase the number of disciplines involved. Encourage cooperation among agencies and academics. Try to set national research priorities and develop a shared budget for meeting them. This should be done by a consortium of agencies and organizations including IFC, TNC, USGS, and independent university centers.

2. The National Science Foundation (NSF) and USGS should establish a national research program to evaluate river needs. This should be focused on applied research and emphasize what we have learned from adaptive management programs.

3. Take advantage of existing NSF-funded coordinated national research initiatives and networks (National Ecological Observatory Network (NEON), Consortium of Universities for the Advancement of Hydrologic Science Inc. (CUAHSI), Long Term Ecological Research network sites(LTERs)).

4. The water resource institutes, the National Academy of Sciences, the National Center for Ecological Analysis and Synthesis, the Heinz Center should encourage research collaboration.

5. The research community should be encouraged to analyze FERC relicensing data.

6. Create a national water research center with regional offices that partners with universities, industry and other government agencies to set research priorities.

7. Encourage economists to value the ecosystem services that are really the target of instream flow research.

8. Encourage more systematic research on user pay systems.

9. Encourage large-scale research projects that look at water needs across numerous urban areas.

10. Examine existing baselines and try to predict changing circumstances, such as the impact of climate change on species movement. Explore the impact of species interaction and interdependence on overall aquatic health.

Funding/Monetary Incentives[6]

Adopt user pays strategies. Direct the revenues collected in this way to pay for scientific studies and ISF monitoring.

Who should do what to implement these funding strategies?

1. Offer rebates to domestic water users and irrigators for low levels of water use.

2. Assess surcharges to water customers for ISF purposes, scale them based on the amount of water they have been able to conserve.

3. Water administrators should assess fines for non-compliance with permitted uses or conditions. These funds should be put toward ISF purposes.

4. Scale water charges to reflect green/low impact development so that wasteful development patterns pay more.

Part III: Regional Roundtables

As the last interactive breakout of the conference, *FLOW 2008* participants divided into regional groups according to the following:

- Western US - AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY and U.S. Pacific Islands,
- Central US – IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI,
- Southeastern US – AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV, and other US Territories,
- Northeastern US – CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT, and
- Canadian Provinces and Territories.

Despite the suggested divisions above, anyone could attend the session of their choice. The question posed to these groups by their respective facilitators: "Given the 'action items' that have been generated so far, what can we work on together – as a region -- to advance this agenda?" Unlike Parts I and II, there was no post-session opportunity for participants to review and comment on the text captured by regional facilitators.

---

[6] Comments on this portion of Part II indicated varied concerns and questions (see http://www.instreamflowcouncil.org/flow2008/docs/Action-Plan-long.pdf for comments).

Western US

- Develop mechanisms to reallocate water uses
  - WHO – assist and build network of Water Trusts – Columbia Basin Water Transactions Program (see www.CBWTP.org)
- Develop model code to help state develop instream flow laws – to avoid litigation
  - WHO – IFC convene a Blue Ribbon Task Force
- Assess and summarize state instream flow laws and regulations/provide examples of state programs that work
  - WHO -- IFC
- Fund water efficiency project
  - WHO – fishhabitat.org
  - WHO: Natural Resources Conservation Service (NRCS) and others who fund agriculture producers
  - WHO: DOI, Bureau of Reclamation
- Promote and support state actions on instream flows
  - Coordinate with state instream flow coordinator in your state
  - Develop and implement state water trusts
  - Develop growth management policies tied to water supply
  - Develop a "no net loss" policy
  - Implement existing laws
- Pick a regional project
  - Use and build on Western Native Trout Initiative
  - Build on other existing groups – e.g., National Fish Habitat Plan participants; Interstate Council on Water Policy, etc.
- Create a regional organization
  - Create compacts (like the Great Lakes Compact)
  - Secure funds for a western version of Southeastern Instream Flow Network (SIFN)
    - WHO – Bob Deibel, USFS; IFC (see also references to working with others)
- Other
  - Create Regional/National Instream Flow Plan and Organization of stakeholder group that includes powerful water rights holders, regulatory agencies, NGOs and other key stakeholders.
  - Find ways to fund NGOs who assist states with instream flow laws.
  - Define how we know when we have reached our instream flow goals
  - Develop incentive-based mechanisms for water transfers
  - Require mitigation program for all new water users – if you take water out of the system you need to mitigate
  - Require a portion of water conserved via improving agricultural efficiencies to go to an instream flow trust
  - Utilize existing resources: USFS, Western Native Trout Initiative, TU, TNC, Columbia Basin Water Transactions Program, etc

Central US

- Included 14 participants and 7 of 8 states
- Focused on Recommendation # 1 in Science Action Items … then generalized
- Complete regional classification of streams (Actions 1 and 2)

- WHO – IFC should identify potential partners, such as EPA, the Association of Fish and Wildlife Agencies (AFWA), basin associations
- WHO – individual IFC members should take action

- IFC should engage advocacy groups to support "action items" – including TNC, TU, American Rivers, etc.

Southern US

- Develop model(s) that regions and states can use for developing educational outreach for schools (including curriculum development) and for outreach programs to get people on rivers … use existing models/resources where necessary
  - WHO – SIFN (Southern Instream Flow Network)

- Develop one-page instream flow educational document for legislators on science
  - WHO – SIFN should develop bullet points that states/legislators can use

- Provide citizen outreach and coordinate information
  - WHO – SIFN should send emails to southeast conference participants to spearhead sharing information on what works in terms of public outreach and other information in instream flow – including research available, relevant land-use planning information tied to water use constraints

- Other
  - Compile state of science, policy, and regulations regionally; explore the value creating a web site
  - Advance national policy on instream flow
  - Promote proactive land-use planning tied to water use constraints … educate each other
  - Create a web site for regional instream flow resources
  - Work regionally on research

Northeastern US

Legal and Policy Issues

- Identify potential policy/legal tools to accomplish Action Plan goals. Goals should include flow restoration.
- Organize a Workshop at which a regional group of legal and policy experts can assess the current state of laws and policies for flow protection and report back to scientists in plain English. Provides foundation for discussion across science and legal. Understand what is the legal framework across states, not necessarily about tightening laws.
- Include goals of optimize/restore/revisit previous water use decisions/allocations in water management decisions and programs (should include ability to change uses in over-allocated basins)

- Should aim for a legal framework that can work using watershed boundaries (including inter-state basins).
- Include review of land-use and utility laws and how they affect water management and water laws
- Distribute existing EPA review of case law on CWA and flow issues (C. App)
- Examine whether we need new authority to look at existing water permits.
- Look at Pennsylvania model of technical assistance—integrating wastewater, stormwater into management approach.
    - WHO -- IFC could be lead on the legal review—and sponsor the workshop.

Outreach and Education

- Try to develop common outreach materials to build public support. Water budgets at the state level have proven to be useful for outreach to date and should be used more often.
- Try to speak with one voice regionally
- Link to global warning to help outreach
- NGO campaign to public with a concept like "Let it Flow"
- Workshop on "water words" so that we can use language that works with the public.

Land Use and Local Issues

- How do we get retrofits for fixing existing problems into land use and other decision-making?
- Can we develop model water bank legislation and water fees for restoration?
- Should move to template/guidance for model bylaws for local zoning; look into state enabling legislation for planning reforms for water protection.

Science for Instream Flow Criteria (to meet Recommendations 1, 2, 4, 5)

- Get regional water and biological scientists together to develop a regional research plan based on the goals above.
- Get federal/state/academic agencies together to coordinate their existing research plans.
- Can use state's pooled State Wildlife Grant funds to push this research agenda forward (e.g., via the Northeast Association of Fish and Wildlife Agencies)
- NGOs will have a significant role of building and supporting this agenda.
- Can work through AFWA to get this done.
- Take advantage of existing university networks, like cooperative fish and wildlife units that are interested and run with them. A strong agenda may bring in additional partners as it builds.
- Should include regulated community—they can assist in getting momentum and funding. Regulated community is interested in good data, especially when you link it back to the biological community. Public-private partnership.
    - WHO – Rushing Rivers and TNC are potential leaders for convening the science workshop.

Canada

Context:

- Different provinces are at different stages in:
  - the development of legislation to protect instream flows and water management policies in general
  - the status of coordination and implementation between Federal legislation (e.g., the Fisheries Act) and Provincial policies and legislation
  - the degree to which existing legislation and regulations are enforced
- There is significant interest in:
  - enabling the sharing of experiences in science and policy across jurisdictions
  - Improving the grassroots level of understanding of critical water management issues

Action:

Investigate the development of a **National Water Forum / Lobby** comprised of NGOs, Public and Private sector participants, with an aim to:

- Develop and disseminate information to raise the level of public awareness
- Develop and share policies and science directed toward instream /environmental flow management
- Improve the consistency of implementing Federal legislation across the Provinces and Territories