Briefing Note:

Stakeholder Roles in Rio Grande Basin Management

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1. Introduction

More than a decade ago, the World Water Commission released its *World Water Vision* with the subtitle, *Making Water Everybody's Business*.² The message was that water decisions are too important to leave to the experts. The problem of degraded rivers and inequitable access to clean water reflected a deeper issue of lack of public engagement with water decisions. Because water is fundamental to all life, everybody has an interest in, and responsibility for, the wise management of water and water ecosystems (rivers, lakes, and aquifers). The rightful role of water governance, as with political governance, is to reflect the will of all people, including future generations.

While water has not yet become "everybody's business," the past decade has witnessed an important evolution of water governance from serving specific interests (e.g. agriculture or flood control) to reflecting a much broader set of society's goals. The primary innovation driving this new generation of water governance has been the approach of Integrated Water Resources Management (IWRM) which provides a systematic way of balancing competing human demands for water and river ecosystem health. Implementation of IWRM procedures has necessitated a parallel institutional development of organizations and policies to empower a broader set of water stakeholders. The main institutional innovations have been (1) basin-level organizations which use the intuitive frame of the river basin in managing water resources, and (2) formal mechanism for engaging a broad range of stakeholders in basin-level water governance.

River basins which have undergone governance reforms of IWRM and basin organizations that "make water everybody's business" have shown real results. In the Rhine River, for example, the salmon have returned thanks to two decades of efforts coordinated by the Rhine River Commission.³ This example has inspired a similar approach for the Danube Basin.⁴ In Australia, the Murray Darling Basin⁵ has had mixed success, but has averted what would

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² World Water Vision: Making Water Everybody's Business. World Water Commission 2000.

³ See the website for the International Commission for the Protection of the Rhine, http://www.iksr.org.

⁴ See the website for the Int'l Commission for the Protection of the Danube River, http://www.icpdr.org.

See the website for the Murray-Darling Basin Commission, http://www2.mdbc.gov.au.

otherwise have been an environmental catastrophe. Within the United States, the Delaware River Commission⁶ and the Chesapeake Bay Commission⁷ have made important progress in protecting basin resources.

This Briefing Note is intended to contribute to a discussion of the sustainable management of the Rio Grande basin, by considering governance options built around the precept of "making water everybody's business." Emphasis will be on understanding IWRM principles, and drawing inspiration from some of the many hundreds of cases of river basin communities which are facing the challenge of meeting short-term water demands and protecting long-term ecosystem health. Ultimately, effective IWRM depends on meaningful involvement of stakeholders in water management decisions, and this Briefing Note concludes with a discussion of what forms such participation could take.

2. Overview of IWRM⁸

Integrated water resources management "promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems" ⁹ IWRM..."encourages participants to consider a wide array of social and environmental interconnections.... [It] supersedes traditional multi-purpose natural resources management by explicitly encompassing societal goals and ecosystem functions." ¹⁰

IWRM integrates policies, decisions and costs across sectors, e.g. industry, agriculture, urban development, and fisheries. It is also promotes reform of socio-political systems to enable people to obtain sustainable and equitable benefits from those resources. More specifically, an IWRM approach implies that:

- water development and management takes into account the various uses of water and the range of people's water needs;
- stakeholders are given a voice in water planning and management,
- policies and priorities consider water resources implications, including the two-way relationship between macroeconomic policies and water development, management, and use;
- water-related decisions made at local and basin levels are along the lines of, or at least do not conflict with, the achievement of broader societal objectives; and

See the website for the Delaware River Basin Commission, http://www.state.nj.us/drbc/

Website for the Chesapeake Bay Commission: http://www.chesapeake Bay Commission: http://www.chesapeake.net and Chesapeake Bay Foundation, http://www.cbf.org.

⁸ This overview has been adapted from <u>WaterWiki</u>. For further details on IWRM and access to the "IWRM Toolbox" see the <u>GWP website</u>.. For a detailed discussion of IWRM concepts from the perspective of the US Army Corps of Engineers, see the article on "Integrated Water Resources Management: Definitions and Conceptual Musings" by H. Carwell et al. http://www.ucowr.org/updates/135/2.pdf.

⁹ Taken from the website of the Global Water Partnership: www.gwpforum.org

Ballweber, J. 2006. A Comparison of IWRM Frameworks: The United States and South Africa. Journal of Contemporary Water research & Education 135:74-79. http://www.ucowr.org/updates/135/9.pdf

• water planning and strategies are incorporated into broader social, economic, and environmental goals.

IWRM can be viewed as a process of change which seeks to shift water development and management systems from their currently unsustainable forms. There is no one correct administrative model. The art of IWRM lies in selecting, adjusting and applying the right mix of tools for a given situation. Implementation may take place on a step-by-step basis, in terms of geographical scope and the sequence and timing of reforms. This offers room for change, improvement and process adjustment, provided that the proper bases for sound decision making have been established.

What Is IWRM?

IWRM is, above all, a philosophy...It offers a guiding conceptual framework with a goal of sustainable management and development of water resources. What it does demand is that people try to change their working practices to look at the bigger picture that surrounds their actions and to realize that these do not occur independently of the actions of others. It also seeks to introduce an element of decentralized democracy into how water is managed, with its emphasis on stakeholder participation and decision making at the lowest appropriate level.

All of this implies change, which brings threats as well as opportunities. There are threats to people's power and position; and threats to their sense of themselves as professionals. IWRM requires that platforms be developed to allow very different stakeholders, often with apparently irreconcilable differences to somehow work together.

Source: Cap-Net 2008

3. IWRM in River Basins

The natural unit for applying IWRM is the water basin (e.g., river basin or watershed), where impacts and relationships across use sectors can be assessed and managed as a whole system. There has been a steady trend towards institutionalizing basin-level water management. The European Union's 2001 Water Framework Directive mandates a river basin approach, based on the successful experience of France, Spain, and Germany. Australia and South Africa adopted basin-oriented water management in the 1990s. Within the United States, Oregon and Washington have institutionalized watershed units as the basis for water management.

Integrating the multiple goals of IWRM requires a governance system that can balance competing interests to achieve sustainable management of river ecosystems. All stakeholders need to be represented either directly or indirectly. Sustainable governance implies that the diverse stakeholders acknowledge the overall fairness of the arrangement, since sustainable management ultimately depends on mutual cooperation among stakeholders.

While human stakeholders are usually able to make their interests known to water managers, environmental stakeholders (fish, wildlife, rivers, lakes) depend upon human champions to represent their interests. IWRM provides a systematic approach for taking environmental interests into account and avoiding the "tragedy of the commons" that can otherwise occur. There are broadly two ways that environmental interests can be accommodated into IWRM governance: (1) Environmental advocacy by groups representing a defined set of human stakeholders who collectively advocate for their environmental "clients" whether a species (e.g., willow flycatcher, Rio Grande silvery minnow) or the whole ecosystem, and (2) The application of environmental science, particularly ecological studies focusing on ecosystem dynamics. ¹¹

Water management operates in a three-dimensional framework. The three parts of the framework, usually constructed at the national scale, are the enabling environment, institutions and management (Box 3.B). Analyzing the institutions within the river basin, and identifying missing functions, is an important first step in developing an IWRM strategy. For example, assessing the enabling environment of for the Rio Grande would reveal significant weaknesses under the "institutions" column, since there are no comprehensive basin-wide coordinating mechanisms currently in place. ¹²

Enabling environment	Institutions	Management
Laws and policies Frame water resources management within a country and between countries Water user dialogues Cross-sectoral and upstream-downstream dialogues Basin committee Budgets Financing organisations and investment Co-operation Within international river basins	Roles and responsibilities Of basin and other water sector organisations at different levels in the government, nongovernment and private sectors Effective co-ordination mechanisms Planning process Financing	Structures to Assess water resources (availability and demand) Set up communication and information systems Resolve conflicts in allocation of water Establish regulations Establish financing arrangements Establish self-regulation (voluntary actions) Research and develop Undertake development works Ensure accountability Develop organisational capacity Co-ordinate

From Handbook on Integrated Water Resources Management in Basins. GWP and INBO 2009

¹¹ For example, see the article by David Brookshire et al 2010, Ecosystem Services and Reallocation Choices: A Framework for Preserving Semi-Arid Regions in the Southwest. Universities Councill on Water resources Journal of Contemporary Water research & education 144: 60-74 http://www.ucowr.org/updates/144/9.pdf. The two Rio Grande organizations which do function at the basin level have very narrowly defined mandates:

The Rio Grande Compact Commission handles water sharing among the riparian states, and the Rio Grande Watershed Federal Coordinating Committee is limited to federal agencies.

4. Stakeholder Roles in Basin Organizations¹³

Basin organizations take a 'big picture' perspective and serve as the leading voice on basin-wide water issues. This means keeping basin constituencies and decision makers in all sectors and at all levels, in both the public and private sector, fully informed and involved.

There are many different kinds of basin organizations, The key distinguishing features are whether the basin organization is a formal government body enshrined in law, a temporary official arrangement but with limited legal powers, or an informal or non-governmental body with no legal powers. Other features are in the functions of basin organizations: whether they own dams, canals, water ways, hydroelectricity power plants, dykes and irrigation works and build, operate and maintain such water infrastructure, or, whether the basin organizations are only responsible for non-technical tasks.

4.1 Types of Basin Organizations

Commissions. Commissions are normally established by formal government statements or rulings and may or may not have a permanently staffed office. They often define common rules (e.g. for navigation) or decide on allocations of the available resources between the categories of uses or regions. The Rio Grande Compact Commission, for example, defines rules for water allocation between the three basin states (Colorado, New Mexico, and Texas). Commissions may also coordinate flood and drought prevention, and measures to reduce pollution, and prepare and implement multi-year plans to co-ordinate and reinforce activities at the basin level. In the European Union, international commissions are coordinating the implementation of the Water Framework Directive in riparian EU member states. In federal countries (e.g. Brazil, Australia), such commissions can be established by the central government and states, provinces or regions to co-ordinate policies and activities on a shared river or aquifer.

Basin Directorate or Agency. A basin directorate or agency makes planning decisions and has statutory responsibilities. They may set and enact regulations, or have authority to give consent for developments and are usually founded on civil service principles to serve the public with some autonomy within a national legal framework. They may have an arbitration role, which the interested parties refer to for decision making on any conflict that arises. They are usually in charge of carrying out tasks for medium-term planning and for collecting taxes on water abstractions and discharges to finance or support the investments needed to achieve set objectives. In some cases they can also be responsible for water policy, studies, data collection or production, information sharing and public awareness.

Basin Councils. A basin council may be a formal or informal group, comprising government officials, parliamentarians, NGO workers and lay people who get together to discuss water management issues. Councils are usually set up to advise government. A council, unlike a commission, which is also a body of experts, has no regulatory powers. Basin associations or

¹³ Adapted from GWP and INBO 2009.

councils (also called syndicates) often exist alongside the formal administration and represent different categories of users, NGOs or local community groups. Such associations or councils can have a variety of roles, for example providing advice, raising awareness, educating and stimulating ownership of basin natural resources management and promoting exchange of information. They can also play a watchdog role. They are sometimes set up to solve a specific problem or for a specific basin.

Murray-Darling River Basin Management (Australia)

The Murray-Darling Basin Ministerial Council, the Murray-Darling Basin Commission and Community Advisory Committee provide a forum for reconciling the respective interests of the partner governments and communities in setting priorities for long-term investments in natural resource management within the Basin. The Commission is directly involved in a range of activities including:

- The management of the River Murray System through shared investment
- Implementing the Salinity & Drainage Strategy (works & measures to reduce salinity in the
- River Murray, maintenance of a Register of salinity credits & debits, 'rules' for determining salinity credits for joint works between governments & debits arising from state activities adding salt to the rivers)
- Piloting interstate water trading (transfer of water allocations) and
- Implementing a cap on further diversions of irrigation water from the Murray-Darling system.

The 2001 Integrated Catchment Management Policy is based on strong government/community partnership, increased responsibility and accountability for catchment organizations, capacity building, and a targets-based approach to improve resource condition and thereby protect important environmental, economic and social assets in the Basin. The MDBC has produced significant short-term outcomes:

- Reducing river salinity through the construction of jointly-funded salt interception schemes;
- Stabilisation of water extractions from the Basin's rivers through the Cap on Diversions;
- Allocation of water for high environmental value ecosystems and deliberate operation of the river to achieve environmental flows;
- Increased knowledge and awareness of declining resource condition and of management practices needed to address the causes
 - Increased understanding by Basin communities of the geography of the Basin
- Establishment of a Human Dimension Program, one aim of which is to integrate social, institutional and biophysical sciences to improve the likelihood of adoption of best management practices for managing the Basin's natural resources and improve policy development for natural resources management.

Further information from: Murray-Darling Basin Commission: http://www.mdba.gov.au/ Source: www.gwpforum.org

Stakeholder Advisory Groups. An independent group, such as a stakeholder advisory group that advises on key water issues, can make basin management more effective. Stakeholder advisory groups are government-private sector-community groups made up of representatives of basin landowners, relevant state government agencies, local government councils, local water supply authorities and other utilities, economic sectors such as agriculture and energy,

and other groups with an interest in land and water management. The role of the advisory group is to advise the basin organization on major basin problems and possible solutions. The group can voice local concerns, provide local knowledge, help quantify and prioritize issues, as well as identify options to address these issues and provide a reality check on how options are likely to work in practice. Another important role is to advise on developing and implementing a monitoring system.

Workshops and field trips can help both stakeholders and basin organizations appreciate the array, size and extent of land and water resources issues in basin management, as well as how local actions impact other parts of the basin. The advisory group may be supported by a technical committee that advises on the engineering, ecological, economic and social aspects.

Stakeholder Roles in the Okanagan River Basin, British Columbia 14

The Okanagan Basin Water Board (OBWB) is a unique form of inter-regional government established in 1969 under the BC Provincial Government to take on a range of responsibilities for water management. The OBWB does not have regulatory authority, but has taxation powers to support its activities. Nine of the twelve Directors are elected officials appointed by the three Okanagan regional districts: other directors represent the Okanagan Nation Alliance, the Water Supply Association of BC, and the Okanagan Water Stewardship Council.

Key management concerns within the Basin include algal blooms and other signs of deteriorating lake water quality, rapid population growth, and increased awareness of climate change. The OBWB's functions include:

- Implementing Basin-wide programs for exotic water weeds, wastewater infrastructure funding, and water research and management to benefit all Basin residents;
- Advocating and representing local needs to senior government planners and policy makers to protect Okanagan interests;
- Providing science-based information on Okanagan water to local government decision makers and water managers for sustainable long-term planning;
- Communicating and coordinating between government, non-government, universities and businesses to increase the effectiveness of water initiatives; and
- Building funding opportunities by providing leverage grants, securing external dollars and identifying cost-sharing partners to expand local capacity.

In 2006 the OBWB established the Okanagan Water Stewardship Council (the "Council") to capitalize on local water expertise and improve long-term decision making. The Council is a broad-based body of water stakeholder groups and technical experts that provides independent advice and policy recommendations to support sustainable water management. The Council's mission is to be a trusted source of expertise and knowledge for sustainable water management in the Okanagan, providing balanced and considered advice to the OBWB – and through them to the community at large.

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¹⁴ Source: http://www.obwb.ca/about/

4.2 Basin-level Water Planning¹⁵

Basin Management Strategy. This sets out the long-term goals and aspirations for water resources management, and how these goals are to be realized. A strategy usually covers a ten to twenty-year period. The strategy determines the overall directions for basin management and is the basis for developing detailed action plans. Sometimes plans can be derailed by unforeseen events or changes in political priorities or personalities. It is therefore advisable to build some resilience into the plan to cope with such external shocks or pressures.

River Basin Planning under the EU's Water Framework Directive

The Water Framework Directive sets the legal framework for integrated river basin planning and establishes it as the key instrument for water management. The Water Framework Directive is a breakthrough for European water management partly because the old sectoral management approaches and the management approaches based on administrative borders are left behind.

The principal area/unit for water management is the River Basin District. River Basin Districts may combine several river basins. A river basin is defined by hydrological properties as a natural hydrological basin with an outlet to the sea. The planning process required by the Directive is the process instrument to prevent deterioration of the water status and to achieve a good water status for all European waters by 2015. The objectives are binding and enforceable 'result obligations' while the different steps of river basin management, as required by the Directive, are 'process obligations'. The planning process is divided into four major steps:

- Identification of the River Basin District and the administrative arrangements including the competent authorities and the arrangements for co-ordination;
- Characterization of the district and analysis of pressures and impacts on the status of all surface water and groundwater bodies including an economic analysis of the water uses;
- Establishment of representative monitoring of the water status;
- Design of the River Basin Management plans including the programme of measures to reach the objectives of the Directive.

The development of the river basin management plan is subject to public participation. The river basin management plan is not only a planning instrument but also the reporting instrument to the European Commission. The most important part of these plans are the program of measures where the Member States have to demonstrate in a transparent and coherent way how they plan to reach the objectives of Directive. The program of measures has indicate how existing and planned legislation will contribute to good river management. The plan also needs to demonstrate the outcomes from the public participation process.

[Adapted from: *Good Practice in River Basin Planning*, A seminar series on water, Synthesis Note No 3, WWF 2001. http://assets.panda.org/downloads/WFD-PRD-en.pdf]

¹⁵ Adapted from GWP and INBO 2009.

Identifying Management Options. Once priorities for basin management have been agreed, the next step is to determine what management action is necessary to address these priorities. In this step, identifying and targeting action needs to take place at several levels:

- at the local level, for specific farms, properties or neighborhoods, municipalities and industries, tourism areas, or fragile ecosystems, such as site management plans;
- at the sub-basin level, where there are cross-cutting issues which require a broader scale of management, such as storm water management plans, pollution control;
- at the whole basin level, where government and other institutions need to take action, on for example cost-sharing, tax incentives, laws to abate pollution, poverty reduction, building the capacity of water user groups.

Developing Basin Action Plans. The basin action plan sets out the goals, objectives and programs for managing water resources for a specific period, usually between three and six years. This plan is brokered by decision makers in the basin – government agencies, local authorities, municipalities, private firms, farmers, individuals and community organizations – and 'signed off' by the basin organization. The agreed plan will specify responsibilities for action, how costs will be shared, lines of accountability and channels for exchanging and distributing information. The plan will most likely contain a mix of infrastructure, maintenance and non-structural tasks such as changes to laws and procedures, regulations, pricing, institutional development, training and other 'soft' interventions

4.3 Setting Objectives for IWRM

Stakeholders should be involved in the process of setting IWRM goals and developing the governance structure to implement IWRM. However, regardless of the governance history of a river basin organization (and even if it is a top-down bureaucracy with little prior regard for stakeholder inputs), it is never too late to invite stakeholders to the table. Identification of stakeholders and inviting their participation is itself a subjective process. How much representation should be given to environmentalists vs. business interests? The answer depends on the implicit values driving the river basin organization, which in turn depends on which stakeholders are already represented in the governance arrangements.

"... it is becoming increasingly evident that river basin management requires strengthened mechanisms for transparency, public participation, and accountability to ensure that local concerns are incorporated into transboundary decision-making. The absence of such mechanisms may lead to inflexible or unenforceable basin-wide decisions that fail to engender local support or draw on local knowledge. The Murray-Darling Basin Commission has established channels for public participation, including an 18-month public consultation with river communities on three different plans for ensuring environmental flows in the river. A recent survey found that 95 percent of stakeholders surveyed supported the principle of returning more water to the river for environmental purposes, but that support dropped to less than 40 percent if the community was not actively brought into the decision-making process" ¹⁶

Quoted in, An Institutional Framework for Stakeholder Participation in Transboundary Basins, by Barbara Schreiner et al. Water Research Commission (South Africa) 2010

Can stakeholders play a role in basin-wide governance in the absence of a basin-level organization? The answer, which is directly relevant to the case of the Rio Grande basin, is that the stakeholders could, in theory, organize themselves into a basin-wide council and thereby represent their interests. But to whom? Without an already established basin-level governance authority of some kind, the stakeholder council would need to relate to the myriad of federal, state, and local authorities which collectively "govern" the river. This very real dilemma is discussed in the conclusions of this report.

In the absence of basin-wide water governance institutions, higher level policies can provide guidance (e.g., to restore ecosystems) as well as mandates (e.g., protect endangered species). In Europe, the Water Framework Directive comprises mandates that go far beyond single species concerns and require overall riparian health. The target for all major rivers is "good status" by 2015. The Water Framework has adopted the principle of maintaining a minimum environmental flow as part of the definition of "good status." Environmental flow requirements have proven instrumental in Australia and South Africa, where the requirements are written into water laws, and have spawned an entire consulting industry to set local standards under varying conditions. In 2007, the state of Texas adopted environmental flow policies which are transforming the way rivers, including the lower Rio Grande, are managed. ¹⁷

In Australia, where indigenous stakeholders have customary claim to river water, the concept of *cultural flows* has been introduced. Whereas environmental flows are defined on the basis of scientific evidence of ecological function, cultural flows are based on customary behaviors and associated cultural values. ¹⁸

Just as environmental flow was not included in IWRM management objectives until the 1990s (Australia and South Africa) and more recently in Europe, the concept of cultural flows will take time to find acceptance. The process of bringing a new objective into the *modus operandi* of river basin management depends on stakeholders who can champion the cause. Representatives from the Murray Lower Darling River Indigenous Nations (MLDRIN) are part of the "community reference group" which in turn is part of the community advisory council, within the Murray-Darling Basin Commission. It remains to be seen whether the objective of cultural flows will be adopted by the Commission, but the process which MLDRIN will follow is clear: It will seek to influence the Murray-Darling Basin Commission to adopt the concept of cultural flows.

 $\frac{http://governance-iwlearn.org/wp-content/uploads/2010/09/An-Institutional-Framework-for-Stakeholder-Participation-in-Transboundary-Basins-July-2010.pdf}{}$

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See: Murray Lower Darling River Indigenous Nations (MLDRIN), Response to Preliminary Assessment Report, 2009. http://www.nrc.nsw.gov.au/content/documents/Forest%20assessment%20-%20Submission%20-%20Red%20gum%20PAR%20-%20MLDRIN.pdf

Environmental Flows Compared to Cultural Flows

"It is current government policy to return water to the rivers. This is to be done by setting environmental flows. To get the government to listen MLDRIN [Murray Lower Darling River Indigenous Nations] speaks about a cultural flow. Environmental flow is about plants, animals, water quality – the health of the river. The environmental flow is what the Government is trying to buy back from the farmers. Compared to the amount of water used for irrigation, it is only a small amount. Why would you need to argue for a cultural flow? Why would you need a separate flow of water when the government is already working to return water as environmental flows? Why is the cultural flow important? The differences between environmental flows and cultural flows are shown in the following table:"

Environmental Flows

- Environmental health e.g. reducing salt loads in rivers
- Caring for animals and plants
- Smaller than the river's flow

Cultural Flows

- Dreaming
- Language groups
- Economies
- Animals and Plants
- River Health
- Personal Health
 - Teaching children
- Respecting ancestors, and more

5. Towards a Stakeholder Organization for the Rio Grande

A river basin serves as a frame within which the various and sometimes competing stakeholder groups can express their interests, and seek management solutions that meet the individual interests of all the groups. While the process can quickly become complicated, broad stakeholder participation is essential for achieving the right balance of interests, and ensuring popular support for the inevitable hard choices that will need to be made. There are many good models for formal stakeholder arrangements that can represent the diverse interests of basin residents, and can also do justice for the interests of the silent "elephant in the room", Nature herself. Ultimately an approach of IWRM needs to work within natural laws, so there should not be a conflict between economic and ecosystem interests over the long term.

Can an advisory basin-level stakeholder organization operate successfully without a basin-level management authority to give direction and legitimacy to the organization? This question becomes important for considering governance options for the Rio Grande, where there are multiple overlapping federal and state agencies, some limited basin-level authorities, e.g., the Rio Grande Compact Commission, and some limited basin-level coordination, e.g., the Rio Grande Watershed Coordinating Committee. The complexity of the basin's

governance context would suggest both greater challenges in establishing a stakeholder organization, but also greater value in establishing such an organization which could help to harmonize planning, development and water management within the basin.

What kind of stakeholder organization would be most effective for the sustainable management of the Rio Grande? What would its roles be? Who would oversee such a organization? These issues would need to be worked out through a consultative process involving the agencies already active in water management within the basin, and representatives of the many stakeholders not represented by these agencies. The process will be challenging, but the rewards will be well worth the effort.

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