

Future of the Middle Rio Grande

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Abstract—Because decisions made today about the Middle Rio Grande will influence future conditions, symposium participants—the stakeholders—collaborated in a final session to plan improvements for the watershed and river corridor. The result included several action plans focusing on desired future conditions and actions to achieve them.

How can a sustainable future for the Middle Rio Grande Basin be achieved? What exists now that you would like to preserve? What would you like to restore? What would you like to get rid of or change? These are some of the questions addressed by participants in the Workshop portion of the Middle Rio Grande Ecosystems Symposium. Decisions made in the past by many stakeholders have produced the current state, those things that are perceived as good or bad. Likewise, decisions made now by many stakeholders will influence the future state. Although individuals alone cannot control everything that happens, working collaboratively toward common goals can help symposium participants move much more effectively in the desired direction.

The final item on the agenda for the Symposium was a process to help participants think about and plan how to enhance the future of the Middle Rio Grande Basin. This was intended as input to the Bosque Management Plan and also to stimulate collaborative actions by participants, with this session as a start at organizing those actions. The workshop had three main purposes — to identify the desired future of the Basin, to plan some joint actions toward improvement of the Rio Grande watershed and river corridor, and to introduce an innovative and powerful way to work together to achieve goals — that can be applied to any situation.

Workshop Approach: The Path of Least Resistance

The specific process used as a framework is one designed to use the “Path of Least Resistance” to help groups successfully achieve the goals they set. Sometimes plans get implemented; sometimes they don’t. Many groups (and individuals) who use this process report that it makes a major difference in their capacity to achieve their goals.

In: Finch, Deborah M.; Whitney, Jeffrey C.; Kelly, Jeffrey F.; Loftin, Samuel R. 1999. Rio Grande ecosystems: linking land, water, and people. Toward a sustainable future for the Middle Rio Grande Basin. 1998 June 2-5; Albuquerque, NM. Proc. RMRS-P-7. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

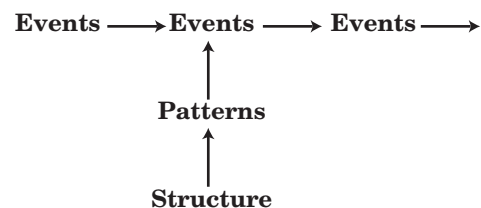
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The intended outcomes of the workshop were:

- Improved understanding of one’s own and others’ desires for the future of the Middle Rio Grande Basin.
- Improved understanding of the current state of the Middle Rio Grande Basin.
- Preliminary action plans for elements of the desired future.
- Introduction to an innovative but tested way to achieve goals collaboratively.

The approach used is drawn from discoveries about the elements of successful implementation or “the creative process” by Robert Fritz, author of *The Path of Least Resistance* (1989), *Corporate Tides* (1996), and other books and the elements of successful collaboration by Barbara A. Coe, author of articles in *the Journal of the Community Development Society* and others. It was based on extensive “grounded theory” research — discovering the principles through observation of many cases. Fritz discovered that a foundational structure underlies and determines action, not only in physical systems, but also action by individuals, organizations, and groups. For example, the motion of the water in the Rio Grande is guided by such elements as the path, depth, and slope of the riverbed, obstructions such as boulders, and barriers such as levies. The water moves along the “path of least resistance.”

So too, individuals, organizations and groups are guided by their structures along this path of least resistance. In the case of organizations and multi-organizational groups or communities such as this one, the elements of the path, or structure, include such things as individual or organizational goals, relative power relationships, information, organizational reporting relationships, or all sorts of other things. With individuals, the elements of the structure include cognitive elements such as beliefs and assumptions, along with the actual circumstances. It is necessary to look at the specific action to know what elements are guiding it. However, once the structure is identified, actions can often be predicted. Sometimes the path of least resistance leads to successful implementation, sometimes not.



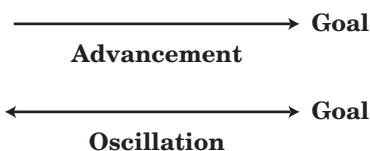
Oscillating or Advancing Patterns of Action

Two structures are common: One structure leads to a pattern of success, advancing steadily toward the goals. The other leads to a pattern of oscillation, moving toward the goals, then away, then toward again, sometimes over a long,

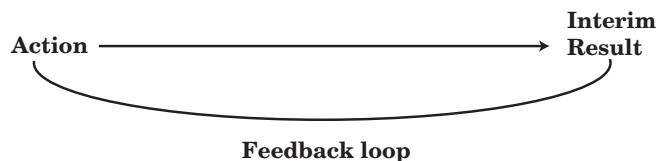
sometimes over a short, period of time. The reason for advancement is that when the desired future state and the current state are in disequilibrium, energy tends to be generated between them, so that people tend to be motivated to move toward the goals. When desires for the future are set against a clear view of the current state, this produces a sort of dynamic tension or “structural tension.” (Fritz, 1989). This tension energizes groups and helps them take and sustain the action necessary to achieve their goals. To maintain this energy requires staying clear about the current state on an ongoing basis, as it changes, as well as staying focused on the goal. Although conditions or events may sometimes preclude achievement of certain goals, the chances of success are greatly enhanced if the pattern is one of continued advancement.

When in a structure designed to lead to oscillation, however, groups take action, such as creating a plan, and then later find themselves in the same place again, perhaps creating another plan because the first one was not implemented. The reason for oscillation is that the structure has inherent contradictions among its elements, so that action cannot be focused consistently toward the goal. As Fritz says, “it is a design problem.” A structure can, however, be designed and created that leads toward the goal.

An accurate assessment of the current situation is an essential ingredient of a structure designed for successful goal implementation, but the view of the current situation is often distorted. Sometimes blanks are filled in when the information is unknown; other times assumptions are made about reality or about the future; or beliefs about how the world works distort reality. Different people tend to see things differently — this is known from many situations — for example, different people witnessing an accident will describe that accident in very different ways. Distortions of the current situation tend to contribute to oscillation. To see the current state clearly, groups must identify what is factual about the current situation, relative to the desired condition. Assumptions, beliefs, and conjectures are set aside for the purpose of creating the desired outcome.



Having the goals and the current state clearly in mind allows for flexibility of actions. Often what will lead to the desired future cannot be predicted at the outset. In the case of sustainable basins, the information is not necessarily available at the beginning. Experimentation with different approaches may be needed before reaching the goal.



When the interim result is observed and evaluated, actions may then be adjusted accordingly and then the new actions monitored and evaluated to learn if they lead toward the goals or are more efficient. This is the approach advocated in Adaptive Management.

When results, either interim results or the desired future, have been achieved, groups find that when they acknowledge this completion and actually celebrate it in some meaningful way, their energy for the next step or the next project is considerably enhanced.

The process used in the workshop was designed to produce a structure leading to advancement toward the goals for the Rio Grande; one in which the path of least resistance leads naturally toward plan implementation. The four primary elements of such a structure are:

1. A clear picture of the desired future state
2. An accurate description of the current state
3. Experimental actions (or adaptive management)
4. Completion and celebration

In a situation requiring the participation of different agencies and stakeholders, a structure designed to advance also tends to include the elements of linking communication, collaborative vision, and evocative leadership (1988, 1990, and 1998).

The Process

The group gathered at about 10:30 p.m. for the workshop to begin the work of producing a preliminary plan for the future of the Middle Rio Grande Basin. Groundrules for working together were suggested and agreed-upon by the group:

- Listen to learn and understand
- Share the spotlight
- Talk one at a time
- Respect all ideas

1. Looking for Common Ground. In this process, participants looked for their “common ground” — what they shared — regarding their desired future of the Rio Grande Ecosystems. Participants formed into five small groups (organized based on the animal logos on their folders) and began to address their Desired Future Condition or Future State of the Middle Rio Grande Basin.

They first selected a timekeeper, recorder, reporter, then introduced themselves briefly, indicating their name, a major activity related to the Rio Grande and a one word descriptor of something they appreciate about the Middle Rio Grande Basin.

They then brainstormed about the elements of the desired future state, making sure everyone had a chance to speak, and using the flipcharts to make the notes so as to help everyone focus on the same thing at the same time and make it easier to process the ideas.

The next step was to get clarification about the items when necessary, and then to find “common ground” on five to seven elements of the desired future upon which they agreed and to write each on a half sheet of paper. They were cautioned that they might identify some items upon which they didn’t agree — but to ignore those or to put them on aside on a disagree list.

They followed these guidelines for identifying Desired Future Conditions:

- End result, not a means**
- Specific enough to know it when it is achieved, not vague**

What you want, not a problem to solve or something you don't want

Example: the Rio Grande River Basin is _____
or the Rio Grande River Basin has _____

The groups then reported out their desired future conditions as follows: One of the groups was asked to name one element of their desired future conditions. Their half sheet was placed on the wall. Other groups with that same element were asked to place theirs with the first one. The next group was asked for the name of one of their elements and the process was repeated until the names of all elements were on the wall. The elements were consolidated into six major elements which became the topics for the afternoon work.

2. Clearly Identify the Current State. The second step was to examine the current status of the Rio Grande Ecosystems, so as to be able to determine what the appropriate actions would be. Given a clear picture of the baseline, groups can devise appropriate action steps. Otherwise, actions may be taken that are unnecessary, unwise, or ineffective. Furthermore, a clear and objective view of the current conditions is a necessary aspect of successful implementation, setting up and using the disequilibrium and “structural tension” between the desired and current conditions to motivate action.

To address the second step the groups were asked to “vote with their feet,” to move to that element on which they would like to do further work. The next step was to describe the Current Conditions or state, that is:

What is already in place vis a vis the desired future state — what is the baseline or current state —

- not how it got that way or
- what is next, just what is

3. Experiment with Actions and Adjust. The last part of this process was to think of some actions to try — to experiment with. Often action steps are set in concrete, but another key to successfully creating the goals is to be flexible in regard to means — similar to Adaptive Management. Some actions are taken, then evaluated to see if they get closer to the goal. If not, other actions are tried.

Groups were asked to think of at least 3 or 4 steps that they considered would lead in the direction of the desired future state. Also, they were asked, if time allowed, to write on the chart who would need to do the action and by when. They organized the results of their work into “structural tension charts” to illustrate how to get from the current state to the future state and how it sets up the energy state. Several participants indicated the need to take action and observe the results, adjusting as necessary as more information is available.

4. Complete and Celebrate. An important part of creating the desired results is to acknowledge the completion, whether of an interim step or subgoal, or of a final goal. To complete the process, each of the groups reported out its results to the other groups and asked for feedback and questions. They discussed next steps followed by concluding remarks by Jeff Whitney.

Report Out. Each group then reported on the elements of their structural tension chart as follows:

Action Plans for Achieving a Sustainable Middle Rio Grande Basin

Desired Future Condition: Sustainable local economy and agriculture and the environment and economy in dynamic equilibrium.

Actions:

- Personal choice as consumers
- Develop regulations that constrain growth based on available water supply (determine water available for development)
- Have more regulation on water use (i.e. watering lawns and washing cars with potable water)
- Promote new economic paradigms (i.e. natural capitalism); destruction of environment is economically detrimental; market regulation
- Internalize environmental costs
- Shift subsidies to environmental benefits
- Need measures of economic goods and bads in terms of ecology
- Farm days (public education)
- Reaching out to children

Current Conditions:

An artificial dichotomy between economic and ecological health
Inadequate incentives for agricultural producers to protect environment
Development that disregards the local environmental conditions (i.e. water/arid climate)
Current demands on water exceed supply
Inefficient/wasteful uses of water
Economy not constrained by the supply of water
Agriculture is given little value; no incentive to keep water on the farm
Ecological values of agriculture and nature are not recognized
Urban development is seen as economically more beneficial than other uses of resources
Perceived economic value of using future capital today
Consuming too much
Ecological services (solar energy, etc.) highly undervalued

Desired Future Condition:

Enough water of sufficient quality to sustain human culture and natural processes; a sustainable water supply; good water quality; and water conservation

Actions:

- Increase hazardous waste recycling opportunities
- Extend water conservation — municipalities now
- NPO's intensify and implement regional planning efforts — MRGCOG and local, state and federal governments, acequias, tribes, conservancy districts — via media and schools — now
- Reduce/minimize water consumption and demand — everyone, now

- Increase wetland development — public agencies, private landowners — now
- Implement NPDES non-pointsource program — EPA and NWED — now
- Manage public lands for sustainable water supply — public agencies, public water — now/5 years
- Economic incentives for turf/agricultural irrigation efficiency — State Engineer's Office/legislature and governor — next legislative session
- Increase cost of municipal and industrial water — adjust rate structure — public water suppliers — phased in now
- Re-engineer Conservancy's drainage system — Conservancy District/BOR — now

Current Conditions:

Too little processing
 Too much sediment
 Dependent on ground water — urban uses
 Inefficient irrigation systems
 Poor upland water retention
 Large areas of irrigated turf
 Urban run-off into Rio Grande
 People think they live in Ohio not the Desert Southwest
 Water Use Excessive: irrigation/sprinklers

- Flood irrigation leads to high water
- Urbanization moves water off rather than retains
- recycling/reuse minimal!

 Attitudes/public awareness changing
 City water conservation effort
 Agriculture improvements
 Intel et al., recycle/reuse
 Improving technology and ongoing research
 Planning and public Education initiatives

- Regional planning
- Evaluation

Desired Future Condition

An ecologically aware and informed citizenry: public thinks like a watershed; people connected to the river

Actions:

- Getting the public out to the river with people who know about it
 - (school kids, media, elected officials) — RGNC, ABQ Open Space, Rio Grande
- Restoration, MRGCD, FWS, NM G&F, NM Forestry, Tribes — ongoing
 - special events
 - restoration projects
 - river institute
 - mentor programs
- Take River to people: take knowledgeable people to public forums, outreach programs
 - creative advertisement
 - continuing education class, UNM
 - Elder Hostel — consortium of experts, TAG Team — by year 2000

- Media/elected officials outreach — Alliance for Rio Grande Heritage — Conservation Lobbyists — ongoing
- Foster New Partnerships among existing education and conservation programs, including tribal— Non-government activists/interested parties, local level, grass roots — 2000?

Current Conditions:

Disconnected from the river

- can't see/experience river
- Insular/out of context from the whole

 Urban people don't feel an emotional attachment to the river
 People don't understand there's a problem with the river
 Ignorance about watershed — "water comes from the tap"
 Take river for granted
 Seeds of interest/growing awareness and fears routed in misconception
 Overwhelmed/immobilized
 Confusion due to hype (El Niño)
 Grass roots activity

Desired Future Condition:

Bosque composed of diverse native vegetation: native, self-sustaining biological communities; healthy native wildlife population and habitat; salt-cedar free by 2003!

Actions:

- Increase restoration efforts
- Coordinated effort on river dynamics to enhance establishment of native vegetation — reach by reach over next 20 years, based on 20 year half life for existing cottonwood forest
 - Hydrograph
 - Sediment
 - Physical barriers — channel characteristics
- Exotics removal/impact reduction
 - Salt cedar
 - Russian olive
 - Pheasants, oryx
 - Cattle
 - Fishes
- Protect what we've got
- Effective for management to maintain native biota
 - Corridors
 - Control over known detrimental interspecies relationships
 - Application of existing knowledge
 - Targeted habitat restoration for specific SPP.
- Monitor wildlife/habitat response to restoration efforts

Current Conditions:

Exotics replacing natives
 Lack of effective native species reproduction
 Declining wildlife and habitat
 Monocultures
 Lack of a diverse mosaic of habitats
 Limited/underfunding of wildlife-habitat relationships

Desired Future Condition:

Collaborative Efforts: good people interaction to create win-win solutions; legal framework for sustainable uses (i.e. urban planning, water conservation, water adjudication, preservation of agricultural lands; governance that is innovative and inclusive of people

Actions:

- Train community mediators
- Conduct institutional analysis
- Create collaboration plan — for agencies
- Break down institutional boxes
- Demo projects: win-win solutions are possible
- Test pilot projects to hold management accountable
- Citizen review board: Referendum #9
- Hold management accountable to implement collaborative process: clean house
- Fund agencies to implement collaborative processes
- Reform institutional missions toward collaborative processes
- Train people to be responsible citizens: of services to communities; mediation skills, etc.
- NEPA CEQ: rewrite implementing regs go through fear and danger

Current Conditions:

Command control paradigm
One lawsuit after another
Competition for resources
Wasteful use of resources
Legal framework weighted toward consumptive uses of resources
Decisions made by elites
Water flows uphill to \$
General public feels powerless and apathetic and uninformed
Other interests unwilling to acknowledge validity of other points of view
No meaningful process in place to get diverse interests together to understand other points of view
Lack of legislative involvement
Action happens only in crisis mode

Desired Future Condition:

A functional river/riparian ecosystem capable of supporting a mosaic of habitats with viable and diverse native species; restore function potential; a reconnected river and bosque; river and watershed are healthy; functioning river systems including uplands to Rio Grande corridor; minimal physical and institutional constraints on river dynamics

Actions:

- coordinate agency management basinwide — 3 years (2001)

- Floodplain management for a sustainable Bosque — as soon as possible
 - Exotic species control
 - little removal/fire suppression
 - selective habitat restoration
- Select sites for mechanical restoration
 - remove bank vegetation
 - rework banks by channel
 - provide flows
- Augment hydrograph to ensure periodic overbank flooding — within 10 years (2008)
 - peak flows
 - timing and duration
- Monitoring — immediately

Current Conditions:

Complex infrastructure
Controlled hydrograph
Narrowing and structural constraints
Stable channel
Lack of sediment supply
Less water
Narrow floodplain
Large stands of non-native vegetation
Stands of mixed native-non-native vegetation
Disconnected River & Bosque floodplain
High fire frequency
Reduced native fish species
Lack of mosaic of successional stages
High consumer demands on water
Fragmented water allocations/drainage

Wrap up

In the wrap-up, participants expressed concern that the word “river” was heard much more than “basin.” The statement was made that ninety-five percent of the attention is being placed on five percent of the land mass because the river is a charismatic resource that captures attention. People have lost sight of where the water comes from and need to regain that awareness. People could substitute the word food for river, as well: urban people are disconnected with the source of their food. As with water, the need to reconnect with the land and the food supply is apparent.

The group also discussed the urgency of restoration of the Bosque. Of particular concern is the possibility of a very large, devastating flood, as some cities have experienced because of lack of riparian area. At the same time, the group expressed concern that actions taken with too little knowledge, especially concerning the long-term consequences of actions, may have detrimental effects. They agreed about the need to be opportunistic, to take advantage of the knowledge available, and to be flexible about how improvement is achieved.