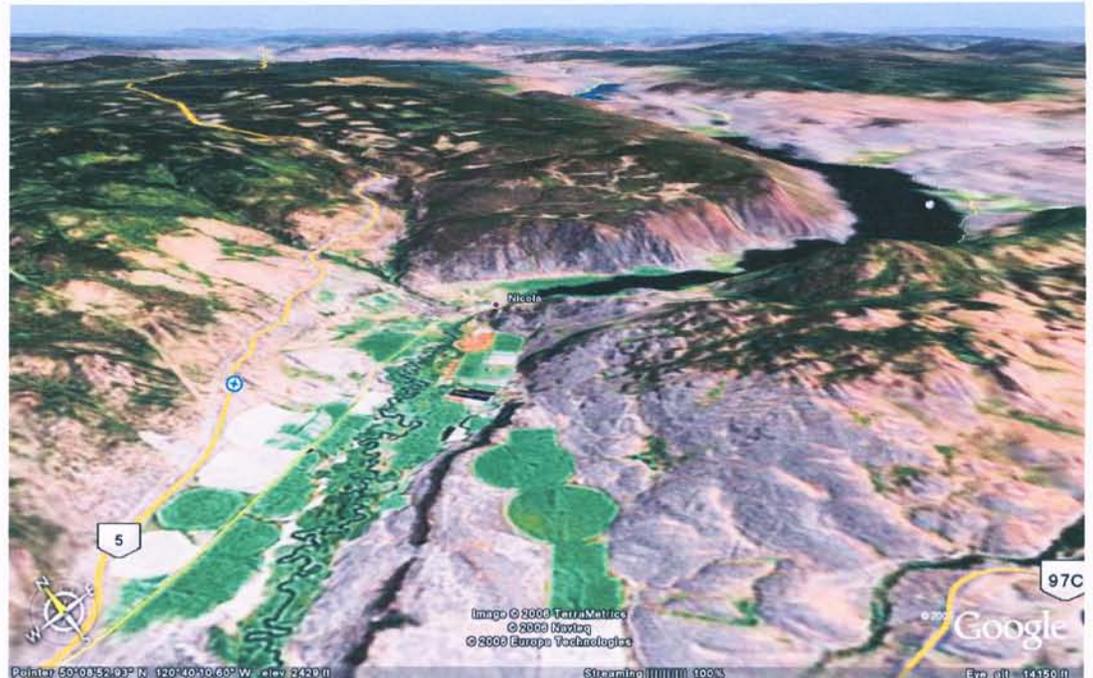


# Nicola Water Use Management Plan (NWUMP)



## Governance - Part 1: Preliminary Assessment of Governance Options

Prepared by: WMI Water Management International Inc.  
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For: Nicola Watershed Community Round Table  
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March 2007



# WMI Water Management International

**May 24, 2007**

**Nicola Watershed Community Round Table  
PO Box 400  
Merritt, BC V1K 1B8**

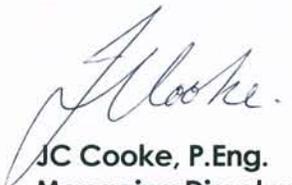
## **GOVERNANCE – PHASE 1: PRELIMINARY ASSESSMENT OF GOVERNANCE OPTIONS**

Thank you for affording WMI Water Management International Inc. the opportunity to support the NWUMP in exploring a roadmap to a tailor-made governance solution for the Watershed.

We hereby submit the following Phase 1 report that records the research findings and public input derived via the NWUMP process.

Yours sincerely,

for WMI Water Management International Inc.

  
**JC Cooke, P.Eng.  
Managing Director**

## TABLE OF CONTENTS

1. Introduction and Background	1
2. Scope of Work	1
3. General Research Findings	2
4. Workshop Findings	3
<i>4.1 Summary of Findings</i>	<i>3</i>
a. The Why	
b. The How	
c. The What	
d. the Who	
<i>4.2 Workshop Attendees</i>	<i>5</i>
<i>4.3 Findings in more detail</i>	<i>5</i>
a. Why do we need a governing body?.	
b. General findings	
c. Governance functions	
d. Structure and legal nature of the governing body	
5. Suggested Way Forward	9
6. Concluding Remarks	10

# Nicola Water Use Management Plan (NWUMP): Governance – Part 1: Preliminary Assessment of Governance Options

## 1. Introduction and Background

In the Nicola Stockbreeders Association's Scoping Report prepared in 2004 and a subsequent Nicola Watershed Community Round Table workshop on water issues, it became evident that a water use management plan was required to ensure a sustainable water future for instream and offstream water users in the Nicola Valley.

In the Scoping Report, institutional capacity was placed at the top of the list of issues. The matter was subsequently addressed in the NWUMP process by Jon O'Riordan.

In September 2006, Allison Guichon prepared a comparison of possible governance models that could be considered by the NWUMP Stakeholders. At this stage, no discussion was entered into by these Stakeholders. The Guichon report is appended as Annexure A to this workshop report.

The main objective of this assignment was to build on the Guichon Report and further explore water management governance models, and their components, that may be suitable for the Nicola Watershed. In order to obtain local public participation, WMI Water Management International Inc. was guided by a Multi-stakeholder Advisory Committee that volunteered their time. A workshop was also organized to provide feedback to the larger NWUMP Multi-stakeholder Committee.

## 2. Scope of Work

Given the limited time and financial resources available to conduct this initial governance work, the scope of this study has been referred to as a "first cut of a first cut".

The initial terms of reference for this assignment have been included in Annexure B.

During the course of the workshop preparations, a Multi-stakeholder Advisory Committee (membership listed in Annexure C1) met twice to debate governance models that could possibly be instituted in the Nicola River Watershed, and to help formulate the public workshop agenda. A third meeting was held after the workshop and this document was reviewed by the Advisory Committee members before finalizing the report.

In essence, the workshop format (as revised in the Advisory Committee meetings) included the following main components:

- a) The Why... Why do we need a governing body?
- b) The How... General findings: what works/is used elsewhere? What are the limitations in the case of the Nicola Valley?
- c) The What... The functions that would have to be utilized to manage the various levels of institutions that could be used? Recommendations regarding potential short and

long term approaches that could be adopted in the Nicola River Watershed.

- d) The Who... Recommendations regarding the structure and legal nature of the governing body.
- e) Next steps... recommendations to move forward.

### **3. General Research Findings**

In preparing information that could be reviewed by the Multi-stakeholder Advisory Committee and later in the workshop by the Multi-stakeholder Committee itself, research into worldwide experience was conducted by the authors.

This experience shows that water management tasks are generally being devolved down from state agencies to participatory, autonomous, financially self-supporting water user organizations.

Legislation, precedence and practice are well established in most old world countries (e.g. almost 200 years in certain parts of Europe). One may therefore adopt the best attributes from various institutional models where precedents have already been set. Annexures D and E provide a synopsis of the water user organizations in other parts of the world.

With the exception of the South Western USA, three tiers of water management structures are typical:

- ✓ 1<sup>st</sup> Tier: Federal or Provincial Government.
- ✓ 2<sup>nd</sup> Tier: Catchment or Watershed Management Agencies.
- ✓ 3<sup>rd</sup> Tier: Water User's Groups, Irrigation Districts, Improvement Districts.

The South Western United States of America typically focuses on second tier organizations, referred to as utilities (see Annexure D).

Tier 2 organizations are usually fairly autonomous. The cost implications of a second tier water management organization are significant. They require a number of full-time staff members with operational and maintenance budgets that can reach into the millions of dollars. It is felt that this size and complexity of organization is not feasible in the case of the Nicola Valley, which has a relatively small population/water user base.

BC Legislation makes provision for Tier 3 organizations, but these are limited to active water users/licence holders. This form of organization does not lend itself to the functions and level of water resource management inputs envisaged by the NWUMP Multi-stakeholder Committee. Examples of existing governing body types are referred to in the annexures and include water boards (e.g. Okanagan WB), water users' communities (e.g. the Bonaparte WUC), and irrigation districts.

Saskatchewan is reasonably advanced in the establishment and running of tier 2 water and irrigation management agencies.

The most appropriate structure for the Nicola would probably be somewhere between a Tier 2 and 3 structure in function, but playing a more cost effective advisory role in the water management decision-making process in the Nicola Watershed.

The Innovation and Planning Branch of the BC Ministry of Environment is currently preparing a discussion document on the way forward regarding water governance in

British Columbia. The Nicola WUMP is mentioned in this document as a potential candidate for a governance pilot project. This discussion document is due for release in the latter part of 2007. Every effort should be made to work together with the MOE in developing the most suitable institution that will meet the requirements of the Nicola Valley Stakeholders as set out in their NWUMP Vision and Mission.

The Thompson Nicola Regional District (TNRD) and the City of Merritt have mechanisms whereby land use and water use can be managed (i.e. via the Nicola Valley Official Community Plan, and the City of Merritt Official Community Plan – OCP).

When considering water users' organizations around the world, they all tend to be governed or managed in a participatory and democratic manner by those who benefit from, and pay for the services that they supply.

They usually employ a full-time staff of managers, and operational/administrative personnel.

The organizations operate on a non-commercial, or non-profit, basis and are usually self-funding.

Due to the public service nature of the tasks that they perform, they are usually subject to some form of regulatory oversight by the government. The agency must be consistent with Government policy and any national or provincial water management strategy.

Since they are usually responsible for the progressive and broad implementation of a watershed management strategy, they require a fair amount of corporate infrastructure to ensure proper implementation.

They hold various levels of jurisdiction that can range as far as the ability to secure loans with water users' land holdings, and the ability to attach members' assets in the case of specific defaults by the water users.

The agency must also contribute towards social and economic development in addition to ensuring environmental integrity.

#### **4. Workshop Findings**

The NWUMP hosted a public workshop on February 21, 2007 in Merritt to allow feedback on the research conducted to date and obtain input and direction from the public process.

##### ***4.1 Summary of Findings***

###### **a) The Why**

Based on the suggestions put forward by the Multi-stakeholder Advisory Committee, the Workshop participants generally agreed that the Nicola stakeholders require some formal water management governance structure in order to implement their water stewardship requirements. The aim of this organization will be to officially participate in decisions regarding the management of local water resources and water use.

Although it may take time to create a recognized identity and set of appropriate responsibilities, it was felt that this public organization will be essential to the implementation and funding of the Nicola Water Use Management Plan.

Understanding the level of input and gaining consensus on the various roles that this public body will fulfill, seems to be an important part of the way forward in forming this water management institution.

#### b) The How

Examples of water management organizations from around the world were briefly presented to the workshop attendees as recorded in section 3 above.

It was felt that the current BC Legislation does not provide an adequate water management role that would meet the aspirations of the Nicola Watershed stakeholders. It was strongly recommended that the NWUMP participates in the Ministry of Environment's initiative to meet these governance needs. There is a possibility that the Nicola Watershed could be used as a pilot project in this Government initiative.

Existing mechanisms such as Official Community Plans could be utilized in the interim to help water stewardship efforts in the Nicola River Watershed. It was made clear by the participants that the NWUMP participants are not intent on standing in the way of development. They just want to see that development is conducted in such a way that it minimizes the negative impact on all residents, businesses and the natural environment in the watershed.

It was also agreed that the Nicola River Watershed stakeholders do not want to jump headlong into establishing a fully fledged, autonomous public body. The large cost and organizational complexities involved in forming and maintaining such a body would be too onerous at first. It would prefer to see an incremental mandate growing from its current planning status through to an advisory body with some legal integrity.

#### c) The What

Various governance functions gleaned from around the world were reviewed. In the workshop, it became clear that the group felt that Nicola Watershed advisory body would initially have limited functions when compared to the traditional second tier public body employed elsewhere to manage watershed activities.

As stated in section 3 above, the workshop participants felt that these responsibilities would be too expensive for the population-base in the Nicola River Watershed, and would also be too onerous for an organization to police their neighbour's water usage.

Since this was an initial introduction to the functioning of these water management organizations, it will be necessary for the NWUMP to develop its own set of roles and responsibilities within future studies, including the Ministry of Environment pilot study that has been proposed.

#### d) The Who

Various models were considered, ranging from large well staffed organizations that have special legal powers deferred to them by higher levels of authority, through to more informal public bodies that advise Government agencies and the general public.

In the case of the Nicola River Watershed, the workshop participants indicated that they did not want to see an expensive, formal public body that has far reaching powers.

They would however like to work with Government to form some form of water management advisory body that has certain levels of influence in decision-making regarding the management of the Nicola Watershed's own water resources.

## 4.2 Workshop attendees

A list of participants is presented in Annexure C2.

## 4.3 Findings in more detail

### a) Why do we need a governing body?

The first question posed to the group during the workshop was “why do we need a governing body”? Participants were given the opportunity to voice their opinions, which were in general agreement. This discussion built upon a few key ideals, namely: a bigger voice in the management of water resources within the Nicola River Watershed; some level of authority to manage local water resources; and a mechanism to ensure that the Nicola Water Management Plan is implemented in future.

The following input by the workshop attendees was recorded:

- i. We need a bigger voice and role in reaching holistic solutions in managing our water resources and water use in the Nicola Valley.
- ii. We need some form of authority/“teeth” to be able to have this say in managing the resource and decision-making.
- iii. A governance structure would give us the credibility and necessary recognition that would prove to Government that we mean business in participating in water management and solving local water issues.
- iv. Potentially a forum for conflict resolution regarding water issues.
- v. As the management of water is fragmented, we can be an overall group to encompass, coordinate, and integrate all water related interests.
- vi. It is easier to manage water infrastructure, river flows and issues at a local level, on a day to day basis, rather than from Kamloops or further a field.
- vii. Implementing a governance model will help us to decide on maximizing efficiency, effectiveness, and conservation of our water.
- viii. Moving forward into the future, a governance model gives NWUMP credibility so that we can start to balance water supply and demand.
- ix. We need to be a credible advisory group, giving good sound advice to Government decision-makers and other sectors of the economy.
- x. We don’t want the current plan to gather dust on a shelf in future; we want to implement the plan.

***Facilitator’s comment: The importance of the “Why” question was re-emphasized throughout the workshop. It was noted that all NWUMP participants should be clear as to what the role of the future governing body will be so that they can determine more precisely what the organization will do on a day-to-day basis.***

### b) General findings

The NWUMP would like to see a water stewardship body fit in somewhere in-between a Tier 2 and 3 organization with regards to its water management functions (see section 3 above for definitions of these tier structures).

With regards to reference made to current forms of jurisdiction, it was noted that the Nicola Valley OCP's jurisdictional area is however very limited. If this legal mechanism is to be utilized to manage water resources by local stakeholders, then it will be necessary to expand the OCP's spatial boundaries.

In considering the OCP route, it was felt that proposed land use developments in the Nicola Valley should be subject to the "water resource management rules of the game" as recommended by the NWUMP in their current role as water stewards. In other words, it would be fitting that the NWUMP be consulted in the evaluation of development proposals put forward to the TNRD or the City of Merritt. One of the participants noted that TNRD OCP Advisory Planning Committees are not representative enough at the moment as it is not evident that they consult with the NWUMP.

The workshop participants' indicated that they feel it would not be feasible to jump straight into a fully fledged public body that would be responsible for water management in the Nicola Watershed. The participants noted that they would like to see the "Incremental Mandate" recommended by the Multi-stakeholder Advisory Committee implemented over time. At the moment the NWUMP finds itself in a planning capacity with very little decision-making input regarding water issues in its Watershed. This representative body would initially like to move towards an "Advisory Role" which has some form of influence on decisions that affect its constituency's population, its business interests and its environment. The NWUMP doesn't see the public body it would like to form become a fully autonomous organization in the immediate future.

Some workshop participants felt that only water users should be represented on this advisory body. Others felt that this would be limiting on the aims and objectives of the NWUMP's consensus based approach in the community.

Participants emphasized that the NWUMP was not in existence to threaten water users water rights, but to help ensure that sustainable land use and water management practices are employed to protect the integrity of business enterprises and the natural environment for future generations.

Unbridled development of our land base and water resources (ground or surface) could severely influence the well-being of all people and organisms that depend on the Nicola River Watershed for their livelihoods.

***Facilitator's comment: From the discussions it became clear that NWUMP representatives do not want to proceed to see a complex water user's organization implemented in the immediate future. They feel that it would be too expensive for local water users and that it would just be another level of bureaucracy that could disturb harmony amongst Watershed residents.***

***It also became clear that no appropriate form of governance structure exists within British Columbia water legislation. It is strongly recommended that the NWUMP work closely with Provincial and Regional Government to establish the most suitable form of water management advisory body in the Nicola Watershed.***

***Other forms of regulation, such as the TNRD's Nicola Valley OCP, could be employed to achieve the NWUMP's main goal of having some meaningful input to decision-making regarding their local water resources.***

c) Governance Functions

- *Initial functions of the organization*

Typical activities that we could possibly consider adopting in the initial phases of the Nicola water management governing body include:

- o The development of a watershed management strategy. This is the primary focus at the moment via NWUMP.
- o Provide input to the current round of Nicola Valley OCP amendments being worked on by the TNRD.
- o Participate in various government referral processes associated with development proposals in the Nicola River Watershed. Water resource and use issues will be addressed.
- o Work with the Province to pilot a project to form a Nicola Watershed Advisory/Governance Body, and to participate in strategic planning regarding further delegation or assignment of duties.
- o Research into and protection of our water resources by all means possible.
- o Develop sustainable water use practices that meet NWUMP's Vision and Mission.

- *Taking It Further*

In order to provide the workshop participants with a broader picture of management responsibilities, a list of functions from other water management organizations from around the world was presented. An advisory body in the Nicola Watershed may still use some of the following functions in one form or another at some point in the future:

- o To Develop of Policy and Strategy

- Long-term strategic planning for the water management organization.
- Reconcile water use and availability in the watershed.
- Water use allocation plans (i.e. allocation of water volumes to various users in the Nicola Watershed). The advisory/governing body would like to participate in management decisions, but would not like to take responsibility for allocation. This is an important function, since water resources are currently fully allocated in the Watershed. The well being of enterprises and the natural environment may be severely impacted if water resource development strategies are not implemented (e.g. creating water storage to make up for the effects of Climate Change and other water use issues).
- Water use education would definitely be a function of the advisory/governing body. Examples of providing information to Valley residents as well as Government officials include: the importance of not draining groundwater resources, especially if it is directly linked to surface water; drought management and water conservation strategies should be counted in as well.

- It will be made clear that the organization does not want to stop development, but wishes to add value to the community and the environment by recommending sustainable solutions to water issues.
- Determine hydrology and a realistic flow regime for instream and offstream water uses.
- The determination and implementation of operating rules of infrastructure (e.g. the Nicola Lake Dam, which is the main water storage unit in the Valley).
- Financial and business planning for the water governance organization.
- o Supporting Water Management Institutions
  - Create & support consultative bodies/forums that deal with specific issues (by sector or geographic location).
  - Information and other support to Water Users' Associations, the City of Merritt, *et cetera*.
  - Co-ordinate activities of various water related authorities and governing bodies, so that integrated local input is maintained in water related decisions.
  - Foster cooperative governance and create partnerships with civil society and the private sector.
  - Building capacity within the organization in order to be able to carry out the various functions.
  - Providing support/advice on water resource planning and management activities to developers and other sectors that impact water in the Watershed.
  - Support emergency intervention organizations.
  - Ensure continuous communication with general public.
- o Physical Implementation
  - Implement water conservation programs.
  - Implement water demand management interventions.
  - Rehabilitate water resources (e.g. wetlands and riparian zones).
  - Operate and maintain water resource systems.
  - Develop (plan, design and construct water resources infrastructure).
  - Emergency response interventions.
- o Managing Information
  - Monitor water resources (collect, source and capture data).
  - Develop and maintain databases (including quality control).
  - Maintain information management/evaluation systems.
  - Perform needs assessment and water resource problem identification.

- Communicate with stakeholders and collect anecdotal information.
- o Audit Water Resource Management
  - Perform water resource audits.
  - Perform financial and organizational audits of water management institutions.
  - Perform functional performance audits.
  - Propose and facilitate corrective action.
- o Provide Corporate Services
  - Provide secretarial support to the Governing Board.
  - Provide administrative support to all the functional areas.
  - Manage human resources.
  - Ensure financial management of the organization.
  - Provide legal support to all the functional areas.

***Facilitator's comments: It was clear that the group felt that the Advisory Body would have limited functions when compared to the traditional second tier public body employed in other countries of the world. They felt that a fully fledged tier 2 organization, with numerous portfolios, would be too expensive for the population base in the Nicola River Watershed, and would also be too onerous for an organization to police their neighbour's water usage. Since this was an initial introduction to the functioning of these water management organizations, it will be necessary for the NWUMP to develop its own set of roles and responsibilities within future studies, including the Ministry of Environment pilot study being proposed.***

#### d) Structure and legal nature of the governing body

In the next phase of the development of a Nicola Watershed water management governance structure, it will be necessary to investigate what form of organization will be suited to the local situation.

A structure that was suggested could include an elected Board of Directors (a wide range of representation will be important), and a small paid staff (a water manager; secretary/administrator; and an operations person) that follows the mandate of a carefully prepared constitution.

***Facilitator's comments: In the case of the Nicola River Watershed, the workshop participants strongly indicated that they did not want to see an expensive, formal public body that has far reaching powers. They would like to work with Government to form some type of water management advisory body that has certain levels of influence in decision-making regarding the management of their own water resources.***

## 5. Suggested Way Forward

Based on the workshop dialogue and on specific requests from the workshop delegates, the facilitator would suggest that NWUMP take the following course of action in the immediate future regarding institutional development:

- a) Prepare letters to the Ministry of Environment, TNRD, City of Merritt, and Ministry of Agriculture and Lands to inform these agencies of the NWUMP's intention to become more involved in local water resource and water use decisions. The formation of an Inter-agency Committee concerning partnering/exploring the way forward together should be considered.
- b) Expand Multi-Stakeholder Advisory Committee to be fully representative (especially First Nations input).
- c) In conjunction with the larger NWUMP Multi-stakeholder Committee: to choose the initial functions that should be fulfilled; to determine at what level these functions should be implemented; to set targets and timelines; and resource/budget requirements.
- d) Maintain momentum by implementing some of the initial functions including the determination of what it takes to be part of the Government decision-making/referral process. Funding availability will be important component in achieving significant progress.
- e) Participate in the Ministry of Environment's water governance process (i.e. reviewing the imminent discussion document), and to try to obtain pilot project status in the Nicola Valley.
- f) Further investigate how the legislative process may be utilized or changed in the future to support the ideals of the NWUMP.
- g) Ensure all levels of government are involved and integrated into the process.

## **6. Concluding Remarks**

The February 21, 2007 NWUMP Governance Workshop constituted the first formal debate on why we should consider water management governance in the Nicola River Watershed.

The intention of this work has been to provide NWUMP stakeholders with an overview of potential governance options and the implications thereof. It has been meant to start the local water institutional development process, and was not meant to form a definitive study on the subject.

The Workshop Participants quickly realized that the development of a suitable institution was a complex process that will require a lot of time and effort. An "incremental mandate approach" was suggested that incorporates starting off with the implementation of a few initial advisory level functions and working forwards towards a custom-built organization that meets the needs of Community.

Working with the Ministry of Environment's current water governance initiative will also be very important.

WMI Water Management International Inc. trusts that the Multi-stakeholder Committee's preparations for the workshop, and the workshop itself, have marked a significant beginning in achieving the NWUMP's aspiration to play a more significant role in water management and water use decisions in their own backyard.

# Annexure A

# A STUDY OF GOVERNANCE MODELS

Prepared for Nicola Water Use Management Plan

Prepared by Allison Guichon

September 20, 2006

## TABLE OF CONTENTS

OUTLINE OF CONTRACT	3
.....	.....
METHODOLOGY	3
.....	.....
REPORT OUTLINE	3
.....	.....
Oldman Watershed Council	4
.....	.....
Mackenzie Valley Land and Water Board	5
.....	.....
Mount Werner Water Board	5
.....	.....
Manitoba Conservation Districts	6
.....	.....
La Salle Redboine Conservation District	7
.....	.....
Turtle Mountain Conservation District	7
.....	.....
Okanagan-Basin Water Board	8
.....	.....
Bow River Irrigation District	9
.....	.....
Bonaparte Water Users Group	10
.....	.....
CONCLUSION	10
.....	.....
APPENDIX A – Sources	11
.....	.....
APPENDIX B – Comparison of Organizations	12
.....	.....
APPENDIX C – Organizational Charts	
.....	.....
APPENDIX D – Presentation (to be attached at a later date)	
.....	.....

## OUTLINE OF CONTRACT

**Governance** is defined in one dictionary as the act, process or power of governing. In relation to Nicola WUMP, governance is understood to mean the policies, regulations, procedures, structure, revenue generation, mandate and scope of authority of a legally incorporated body that will have a role to play in the management of the water resource. Currently the management of the water resource in the Nicola watershed is primarily the responsibility of the provincial government. To that end, the provincial government has resources, legislation, regulation and policy to manage this resource.

Information on different aspects of existing governance models was collected in preparation for an in-depth discussion on this topic. The governance model will form part of the final water use management plan document and this governance model will need to meet the criteria of feasibility and viability and at the same time gain the support of government and the community.

The existing governance models researched were as varied as the organizations behind them. Researching the different options available to the Nicola WUMP proved to be relatively simple, as there are a large number of groups with very comprehensive websites. Selections were made to draw from both a variety of governance models as well as organizations fulfilling different roles in the realm of water management.

## METHODOLOGY

Research was primarily done using the internet. Searches were performed to identify possible organizations and further research was conducted to ensure they met the criteria of the research project, contained information regarding their governance, and differed from previously selected organizations so as to present different options to the Nicola WUMP. The Summary Table (Appendix B) completed as much as possible with the publicly available information contained within each website and by contacting people via email within the organization.

## REPORT OUTLINE

Outlined below are brief descriptions of the organizations selected, including the following information:

- Who are they
- What they manage
- Where they are located
- When they were formed
- What is their vision, mission statement, and/or goals

## A STUDY OF GOVERNANCE MODELS

Appendix A (page 11 of this document) is a composite list of websites used to perform this research. Appendix B (Excel document) is a spreadsheet comparing the governance models of each of the selected organizations. Appendix C (Powerpoint document) is a collection of organizational charts outlining the positions within each of the organizations.

### **Oldman Watershed Council**

The Oldman Watershed Council (OWC) is a not-for-profit organization that is working in partnership with communities and residents to improve the Oldman River Watershed. The OWC seeks to maintain and improve the Oldman River Watershed through partnerships, knowledge, and the implementation and integration of sustainable water management and land use practices. The Oldman Watershed Council was formed in September 2004, when the Oldman River Basin Water Quality Initiative (Initiative) merged with the Oldman Basin Advisory Council (BAC).

When Alberta's provincial Water for Life strategy was released, these two groups combined to provide a diverse partnership, knowledgeable in all areas of watershed management. Today, the Council provides leadership and guidance in watershed planning and management, monitoring water quality and promoting stewardship.



The goals of the Oldman Watershed Council are to integrate its activities through knowledge, research, partnerships and education as they relate to water management, water quality, and land-use practices in the following key areas:

1. Provide responsible information and input into water management planning activities that reflects the needs of stakeholders in the Oldman Watershed.
2. Increase awareness and understanding of the Oldman Watershed among residents and stakeholders and encourage commitment and responsibility for water quality and water use.
3. Refine and expand knowledge of water-related conditions and processes throughout the Watershed.
4. Promote sustainable land use practices that protect the Watershed.
5. Reduce contaminants, such as microbes, nutrients and pesticides, entering surface water and groundwater in the Oldman Watershed.

The mission of the OWC is to maintain and improve the Oldman River Watershed through partnerships, knowledge and the implementation and integration of sustainable water management and land use practices.

## A STUDY OF GOVERNANCE MODELS

### **Mackenzie Valley Land and Water Board**

The Mackenzie Valley Land and Water Board (MVLWB) was established in 1998, when the Mackenzie Valley Resource Management Act came into being as a result of the Gwich'in and Sahtu Comprehensive Land Claims Agreements. The Act created co-management boards for both the Gwich'in and Sahtu settlement areas as well as establishing the MVLWB.

While the Gwich'in Land and Water Board and the Sahtu Land and Water Board each have jurisdiction over the issuance of land use permits and water licenses in their own settlement area, the MVLWB has three main functions:

- Issuing land use permits and water licenses in the unsettled claims area until the balance of the land claims are settled in the Mackenzie Valley;
- Processing trans-boundary land and water use applications in the Mackenzie Valley; and
- Ensuring consistency in the application of the legislation throughout the Mackenzie Valley.

The mandate of the boards is to regulate the use of land and water, and the deposit of waste, so as to provide for the conservation, development and utilization of land and water resources in a manner that will provide the optimum benefit to the residents of the settlement area and of the Mackenzie Valley and to all Canadians.

The MVLWB's vision for itself is to be a forum for regional decision making, ensuring effective participation of residents in the use, protection, and benefits of the lands and waters of the Mackenzie Valley. They incorporate both scientific data as well as Traditional Knowledge in their decision-making.

### **Mount Werner Water Board**

The Mount Werner Water District was formed in 1965 to provide water and sanitation services for the then newly developing Steamboat Ski Area and Resort. The District was formed as a Special District pursuant to State Statute and is a political subdivision of the State of Colorado. The Mount Werner Water District includes the area of Steamboat Springs that lies south of Fish Creek.

Initially, the District developed separately and distinctly from the City of Steamboat Springs. Over time, however, as the District and the City grew, the need arose for the water and sanitation facilities of both to become physically integrated and combined. In 1980, the District participated in the construction and operation of a regional wastewater treatment facility. It is operated by the City but services both the District and the City. The Fish Creek Filtration Plant also became a joint operation when the State Health Department ordered the City to add filtration to its water system. To meet this requirement, the District and the City reached an agreement to add capacity to the District's Fish Creek Filtration Plant that would meet the City's demand. Now, other facilities are also shared, including Fish Creek Reservoir, which is the raw water supply for both

## A STUDY OF GOVERNANCE MODELS

the City and the District, and the Yampa River Valley infiltration galleries and water treatment facility. The Mount Werner Water District's mission is to provide high quality, customer-friendly services at the lowest possible cost.

### **Manitoba Conservation Districts**

A Conservation District (CD) is a group of neighboring rural municipalities (RMs) working in partnership with the Province of Manitoba to develop programs to effectively manage the natural resources of their area. Conservation Districts are established under the authority of The Conservation Districts Act. Individual District boundaries may vary, however they are usually based on the drainage basin or watershed of the major river in the area.

The CDs are divided into sub-districts along watershed boundaries. Each of the RMs within a sub-district appoints members to the sub-district board. The chairpersons of all of the sub-districts, along with a Provincial Appointee, constitute the CD Board.

The CD Boards hire staff as needed to deliver their programs and to conduct sound financial management. Each of the CD Boards and staff develop an Integrated Resource Management Plan (IRMP) for their area, in consultation with the local ratepayers and provincial partners.

The Department of Water Stewardship is responsible for the CD Program. The Conservation Districts Commission (CDC), reporting to the Minister of Water Stewardship, is responsible for the Program. Staff known as the CD Secretariat carries out the day -to- day management of the Program.

For over thirty years, Manitoba's Conservation Districts have been practicing sustainable development at the grass roots level. Today, there are sixteen Districts, covering over 60% of the agricultural portion of Manitoba, and the program continues to grow.

Particular program strengths have made it a popular choice among rural municipalities.

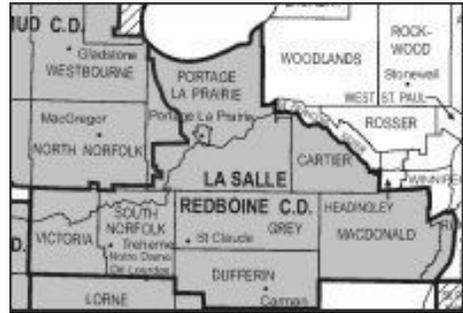
- Local people are the "owner-operators". Municipalities, farmers and other District residents work together toward common goals – goals that they themselves determine.
- A CD is able to deal with the entire range of resource management problems within a watershed and can be a vehicle for delivering programs for other agencies.

Careful management of the natural resources is essential if they intend to have sustained economic growth in harmony with the environment. The Conservation Districts (CDs) Program is tailor-made to deal with the resource management challenges of today and tomorrow.

## A STUDY OF GOVERNANCE MODELS

### **La Salle Redboine Conservation District**

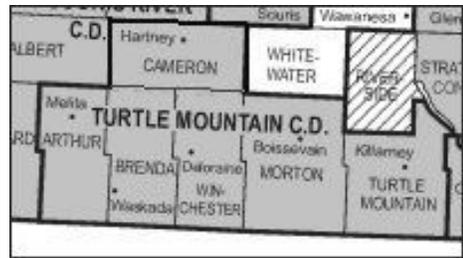
The La Salle Redboine Conservation District (LSRCD) was formed in 2002 and at present covers just over 7,000 km<sup>2</sup> (2,703 miles<sup>2</sup>). It is located in southern Manitoba and includes all or parts of the rural municipalities of Dufferin, Grey, Macdonald, Portage la Prairie, Ritchot, South Norfolk, Cartier and Victoria. It also includes the City of Portage la Prairie, the Town of Carman and the Villages of St. Claude and Treherne. In their first year of programming they offered 12 different soil and water management programs. Some of the programs offered include grassed waterways, offshore watering systems, permanent cover programs, rotational grazing systems and pasture pipelines. They also support their urban partners by promoting green communities by assisting with funding for neighborhood tree plantings and interpretive trail signs.



The La Salle Redboine Conservation District have found that the major challenge in being a new Conservation District is getting their name out to landowners. The LSRCD has roughly 35,000 residents, many of whom don't know that they exist or don't really know what they are about. A major benefit of have older conservation districts is that they can draw on their experiences so the "same mistake is not make twice". But that is really where the similarities stop. Every CD is different, based on their landscape and watersheds, so while the basic programs are the same between districts, each district has their own unique approach to conservation.

### **Turtle Mountain Conservation District**

The Turtle Mountain Conservation District (TMCD) was formed in 1973. The District covers approximately 4,518 km<sup>2</sup> (2,008 miles<sup>2</sup>) and is located along the international boundary. The TMCD includes all or parts of the rural municipalities of Brenda, Morton, Winchester, Arthur, Turtle Mountain and Cameron and the Towns of Killarney, Boissevain, Deloraine, Waskada and Hartney. Annual crop production is the dominant land use, with forage and livestock also playing an important role. Sustainable soil and water management goals are the focal point of the majority of program options and initiatives with the greatest focus on water. Some major programs include creek stabilization, forage seed assistance, shelterbelt construction, conservation tillage, wildlife habitat improvement, and conservation education.



Having been established since 1973, the Turtle Mountain Conservation District faces different challenges than newly established CDs. One of their main challenges is the lack of monitoring, therefore when the Board is looking at

## A STUDY OF GOVERNANCE MODELS

issues facing their CD, they don't know what programs are still necessary. Also, there has been a lot of money spent in their district and they question whether or not it is making a difference.

### **Okanagan-Basin Water Board**

The Okanagan-Basin Water Board was set up to be the vehicle for implementation of the recommendations of the Okanagan Basin Study which was conducted from 1969 - 1974. It encompasses the North Okanagan Regional District, the Central Okanagan Regional District, and the South Okanagan Regional District. It was an alternative to the original chief recommendation of the study which proposed that the valley be represented by one regional district with boundaries coincident with the watershed. The OBWB is set up to be responsible for water management functions identified in the study which pertain to the valley as a whole. The current involvement of the Water Board is in funding of advanced liquid waste treatment projects and control of Eurasian watermilfoil.

The Water Board sees a need for someone to take the lead in integrating all the interests whose purpose it is to protect, allocate, regulate, monitor and otherwise manage water in the valley. They believe that effective management of water must ultimately take on a watershed based approach and while this has been urged in various studies, there has been little progress towards this goal. In the early 1970's the Okanagan Basin Study identified concrete steps to improve water quality throughout the watershed, and set up a mechanism whereby all citizens would share in the cost. They were able to identify and focus on a single source of pollution (community sewer outfalls) for which the technology existed to vastly improve conditions. However, many of the recommendation of the OBS were never fully implemented, and some thirty years down the road, they may be approaching a similar crisis. Remediation of point sources of pollution to the main lakes is no longer enough to protect the integrity of Okanagan waters for potable purposes, for fish and wildlife and other biota, and for human enjoyment.

The OBWB currently face a somewhat bewildering array of agencies, programs, and special projects, aimed at protecting or improving the condition of their environment, and they need to restore an appreciation of the inter-relationships between air, land, water, wildlife, and human activities and recognize that the natural system is complex and dependent on the interaction of all of its component parts. Specifically the Okanagan Basin Water Board would like to:

- Create political will and good governance - enable the varied interests in water management to come together and improve communication and coordination, to make best use of resources, and to establish a firm direction for the management of water in the Okanagan for the future.
- Adopt an ecosystem-based approach - With an initial focus on water, recognize the linkage between social, economic, and environmental components and incorporate this into sound and ethical decision making.

## A STUDY OF GOVERNANCE MODELS

- Care for the region's ecosystems - Identify problem areas and the steps needed to rectify difficulties. As part of sharing the available knowledge and technology ensure that best management practices are used.
- Raise awareness to change human behaviour - educate people
- Empower people - utilize and assist the grassroots non government groups to help achieve water management objectives, and recognize that actions must be adapted to local needs, abilities, and opportunities.

### **Bow River Irrigation District**

The Bow River Irrigation District (B.R.I.D.) is located in Vauxhall, Alberta. The B.R.I.D. owns and operates several hundred kilometers of earth canals and water pipelines, as well as several reservoirs. This infrastructure is used to provide irrigation and domestic water for farming, industry, wildlife, and towns within the district's boundaries. Water for the B.R.I.D. is diverted from the Bow River at the Carseland Weir. Lake McGregor, Travers Reservoir, and Little Bow Reservoir are the major water storage reservoirs for the B.R.I.D., which are owned and maintained by Alberta Environment.

The Bow River Irrigation District contains the third largest area under irrigation of Alberta's thirteen irrigation districts – approximately 213,400 acres or 86,360 hectares in 2004. In 2003, the B.R.I.D. irrigators voted to expand the area of the District, an expansion which is scheduled to be completed by 2007 bringing the total irrigated area to approximately 232,000 acres (93,890 hectares).

The concept for what was to eventually become the B.R.I.D. began in 1906 with the Southern Alberta Land Company, which eventually became the Canada Land and Irrigation Company.

Construction actually began in 1909 at the main diversion on the Bow River near Carseland. After delays caused by financial difficulties and the outbreak of World War I, the first delivery of water took place in 1920. In 1950, the Canadian Government purchased all the land and assets from the Canada Land and Irrigation Company and turned control over to the Prairie Farm Rehabilitation Administration. In 1968, the Bow River Irrigation District was created and took over the Bow River Development Crown Corporation in the Enchant area. In 1974, the B.R.I.D. was expanded when the federally owned Bow River Project at Vauxhall and Hays was amalgamated with the B.R.I.D.

The importance of irrigation to Southern Alberta cannot be over-emphasized. Both the water distributed by the B.R.I.D. and the infrastructure managed by



*Infrared photo of the Vauxhall area*

## A STUDY OF GOVERNANCE MODELS

them fulfill many different roles. Co-operation between the B.R.I.D., Alberta Fish & Wildlife, Ducks Unlimited Canada, and Partners in Habitat Development has resulted in numerous areas being developed for waterfowl and wildlife habitat. Marginal farming areas near or adjacent to canals may be retained as cover areas or may be further developed as waterfowl habitat. Irrigation within the B.R.I.D. provides excellent crop yield, in particular sugar beets, soft wheat, corn, beans, peas, and alfalfa. Several towns and villages enjoy abundant water supplies due to the irrigation distribution throughout the District. Each town or village must have holding ponds that can hold enough water to supply their needs through the fall and winter months when water is no longer available. The reservoirs provide opportunities for boating, fishing and other water based recreation, and the canals also provide a multitude of areas for angling. The water made available by the irrigation distribution system is also beneficial to the efforts of oil and gas exploration. In addition, revenue gained from these activities assists with the day to day operating expenses of the B.R.I.D. and helps to maintain a level of service without unduly burdening the water user.

### **Bonaparte Water Users Group**

The Bonaparte Water Users Group (BWUG) are an incorporated society, composed of individuals concerned with improving the conditions of waterways in the Cache Creek area of B.C. When they began their work, there were a lot of hard feelings between landowners and the Department of Fisheries and Ocean. However, the BWUG their projects are beneficial to both parties: they provide exclusionary fencing for livestock and bank stabilization. The majority of their funding is from external grants. Unlike all the other groups previously examined, the Bonaparte Water Users Group does not have any paid staff; they do however award contracts to complete their bank stabilization projects.

### **CONCLUSIONS**

The comparison of organizations has proved to be quite interesting. There are some trends that are detectable:

- The most common method of making decisions is by majority vote;
- Almost all have paid staff including an Executive Director/Manager whose responsibility is to liaise with the Board of Directors.

The greatest differences are not in governance policies but in actual function fulfilled by the organizations. Within the selection there are groups that deliver water and remove wastewater, groups that approve both water and land use permits, and groups that are mainly concerned with the state of a particular watershed. In terms of governance models, there is a lot of valuable information contained within the summary, which I am confident will assist the members of the Nicola Water Use Management Plan understand governance as well as the different options available in developing their own model.

## APPENDIX A

### **Sources**

While material was collected from all sections of websites, only home pages are listed below.

Oldman Watershed Council

<http://www.oldmanbasin.org>

Mackenzie Valley Land and Water Board

<http://www.mvlwb.com>

Mount Werner Water District

<http://www.mwwater.com>

Manitoba Conservation Districts

<http://www.gov.mb.ca/waterstewardship/mwsb/cd/index.html>

La Salle Redboine Conservation District

<http://www.lasalledboine.com>

Turtle Mountain Conservation District

<http://www.tmcd.ca>

Okanagan-Basin Water Board

<http://www.nord.ca/services/obwb/index.php>

Bow River Irrigation District

<http://www.brid.ab.ca>

Bonaparte Water Users Group

Contact: Harold Ridgway

# Annexure B



## Scope

As part of the planning process leading to a water use management plan for the Nicola watershed, the Multi-Stakeholder Committee needs information about governance models and, more specifically, information about water management governance models that could work under existing provincial legislation/regulation and the unique characteristics of the Nicola watershed.

The project is to explore water management governance models and their components building on the research that was done by Allison Guichon and summarized in her report dated September 20, 2006 and entitled *A Study of Governance Models*. Working with a Multi-Stakeholder Advisory Committee (MSAC), the Consultant will plan and organize a workshop for the WUMP Multi-Stakeholder Committee (MSC) in order to 'test' some possible options for selected governance components and to present preliminary recommendations for input and feedback. The Consultant will also involve the Multi-Stakeholder Advisory Committee in discussions and decisions with respect to the selection of the different options for further analysis and in making final recommendations to the Multi-Stakeholder Committee (MSC).

The Consultant will be required to meet with the Multi-Stakeholder Advisory Committee three times; to attend a meeting of the Multi-Stakeholder Committee on January 10, 2007 as an observer; and facilitate the workshop with the Multi-Stakeholder Committee on February 21, 2007.

Neither timelines nor an implementation plan for next steps will be required as part of this project.

This project is intended to provide a 'first cut' at governance options for the Nicola Basin.

## Project Objectives

The objectives of this project are:

- a) To create a better understanding of what is meant by governance by the Multi-Stakeholder Committee of Nicola WUMP;
- b) To provide a description of a minimum of one type of option for the following components of governance:
  - operating principles
  - limits of authority (mandate) and types of decisions made
  - nature of legal entity
  - how should decisions be made
  - structure
  - user fees
  - legislation changes
  - principles for trading of water rights
  - staffing (may include a water bailiff option)
  - revenue collection – who and how will this be administered
- c) By March 31, 2007, to produce a report with recommendations for feasible options for components of governance.



**Tasks**

	<b>Time Allotted</b>
1) review report prepared by Allison Guichon entitled <i>A Study of Governance Models</i> and other reports, documentation, etc. on the subject	8 hours
2) attend January 10, 2007 meeting and observe group discussion on the subject of governance to get a feel for the Multi-Stakeholder Committee's understanding of governance and related issues.	6 hours (includes travel time)
3) research water management governance models in Europe and Australia.	16 hours
4) research water management governance models in the western United States that administer areas with a similar climate and geography to the Nicola watershed.	16 hours
5) working with the Multi-Stakeholder Advisory Committee (MSAC), recommend one or more options for each of the components of governance with a rationale. Components are as listed under Project Objectives.	6 hours (includes travel time)
6) from the information gathered and collected and working with the Multi-Stakeholder Advisory Committee (MSAC), identify those options under each of the components with limitations for implementation in the Nicola Basin and provide a description of the nature of the limitation(s).	6 hours (includes travel time)
7) working with the Multi-Stakeholder Advisory Committee (MSAC), plan and prepare for a workshop (1) to be held on February 21, 2007.	16 hours
8) facilitate the workshop	6 hours (includes travel time)
9) summarize results of workshop and incorporate them into the draft report	10 hours
10) prepare a draft report	20 hours
11) review draft report with MSAC	6 hours (includes travel time)
12) prepare and submit final report by March 31, 2007	14 hours
<b>TOTAL TIME</b>	<b>120 HOURS</b>

(1) The objectives of the February 21, 2007 workshop are as follows:

- to provide a progress report on the project to the MSC;
- to provide recommendations on the first set of components for input and feedback from the Multi-Stakeholder Committee; and
- to provide an opportunity for the Multi-Stakeholder Committee to provide input into the rest of the components of governance.



**Deliverables**

- workshop
- draft report (5 hard copies)
- final report (3 hard copies and one digitized copy on a CD)
- 3 meetings with MSAC – two meetings between January 10 and February 21 and one meeting between February 21 and March 31, 2007.

**Total Project Time:** Not to exceed **120 hours**. Distribution of hours for each task is at the discretion of the Consultant but all tasks are to be completed as listed.

# Annexure C

## Annexure C1

### List of NWUMP Multi-stakeholder Advisory Committee Members [Including Technical Advisory Group (TAG) Members]

All members volunteered to serve on this Advisory Committee after an open public call that was made via the Nicola Watershed Community Round Table's NWUMP process.

George Armstrong	NWUMP Member and Nicola Lakeshore Owner
Dave Chutter	NWUMP Member and Rancher
Mike Edwards	Ministry of Environment: Water Stewardship Division, and TAG Member
Katherine Gizikoff	NWUMP Leadership Team and Environmental Consultant in Merritt
Jens Larsen	NWUMP Member and Rancher
Jack Madryga	NWUMP Member and Resident of Merritt
Elizabeth Salomon-de-Friedberg	NWUMP Leadership Team and Resident of Merritt
Jill Sanford	NWUMP Resident of Merritt
Ron Smith	Ministry of Agriculture and Lands, and TAG Member

Allison Guichon and Jeremy Cooke served in a consulting role.

P.T.O.

## ANNEXURE C2

### List of February 21, 2007 NWUMP Governance Workshop Participants

John Anderson  
George Armstrong  
Dave Chutter  
Derek Clare  
Lou Cooke  
Coral deShield  
Terry Frizzell  
Katherine Gizikoff  
Allison Guichon  
Phil Hallinan  
Barb Jackson  
Harold Joe  
Jens Larsen  
Robert Lisle  
Jack Madryga  
Lorraine Moses  
Clara Norgaard  
Elmer O'Hanley  
Ed Olney  
Joe Post  
Terry Robert  
Jill Sanford  
Gerry Sanford  
Wayne Schindler  
Katherine Shewchuk  
Matt Williams

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Elmer O'Hanley  
Ed Olney  
Joe Post  
Terry Robert  
Jill Sanford  
Gerry Sanford  
Wayne Schindler  
Katherine Shewchuk  
Matt Williams

# Annexure D

## **ANNEXURE D**

### **WATER MANAGEMENT EXPERIENCE IN THE WESTERN UNITED STATES OF AMERICA**

**By Allison Guichon**

#### **NEW MEXICO – Elephant Butte Irrigation District**

Elephant Butte Irrigation District (EBID) is a quasi-municipal entity of the State of New Mexico. There are 90,640 acres of land within their boundaries, 7,900 water users, and 357 miles of irrigation canals, laterals, and sublaterals. Their irrigation season typically runs from mid-March to mid-October. Elephant Butte and Caballo reservoirs are operated and maintained by the US Bureau of Reclamation, with snowmelt runoff from the Rocky Mountains in southern California providing the bulk of the water. In New Mexico, surface and groundwater belong to the state, and the system applied to water use is prior appropriation.

The Elephant Butte Irrigation District is governed by a nine-member Board of Directors, elected to two-year terms and representing one of the county's polling districts. Their mandate is as follows:

- To serve as a contracting agency for water users to arrange to repay construction obligations to the government and to furnish funds for operation and maintenance
- To serve as an agency for the assessment and collection of operation, maintenance and construction charges, and the payment to the government
- To provide a water users' organization that might later be expanded for the purpose of assuming control of operation and maintenance upon transfer by the US Bureau of Reclamation

Assessments on lands capable of receiving water through the EBID's water delivery system contain three basic charges: a general charge (including an administration charge), an operations and maintenance charge, and a reservoir charge. Assessments are prorated by each water-righted acre. The EBID has five major departments: operations, maintenance, general/administration, hydrology, and engineering.

#### **CALIFORNIA – Glenn-Colusa Irrigation District**

The Glenn-Colusa Irrigation District (GCID), located in the Sacramento Valley, has been supplying water from the Sacramento River since 1883. Water is delivered through a 65-mile long irrigation canal into a complex system of over 900 miles of laterals. These drain to more than 1,200 families who farm approximately 141,000 acres, as well as 20,000 acres of critical wildlife habitat. The GCID provides irrigation water from April through October. All surface water within the district, and groundwater purchased by the district are belong to and are managed by the GCID; there is no proprietary right to the landowner.

The GCID has a five member Board of Directors, elected from different divisions. They are responsible for fixing rates, establishing reasonable average annual water requirements for the different types of irrigated crops, and the annexation or detachment of land to the District. The source of revenue for the District is assessments to the water users. These assessments are based on the quantity of water delivered to the premises with allowable quantities based on the type of crop being produced. The GCID has a large staff consisting of the following: General Manager, Assistant General Manager, Treasurer/Controller, Communications and Public Relations, District Engineer, Maintenance Superintendent, Watermaster, Administration, Accounting (3), Environmental Coordinator, Supervisor (5), Water Supervisor (3), Water Officers (10), Office Specialist, Engineering Technician (3), and Pesticide Management Supervisor.

### **ARIZONA – Central Arizona Irrigation and Drainage District and Electrical District No. 4 & 5 of Pinal County**

Both the Central Arizona Irrigation and Drainage District (CAIDD) and Electrical District No. 4 & 5 of Pinal County are political subdivisions and municipal corporations of the State of Arizona. The CAIDD was formed in 1964 in Pinal County. They service a total area of 87,600 acres of irrigated farmlands of which 13,272 acres are owned by the state and leased to farming operations, 5,152 acres were bought by the City of Mesa for groundwater rights, 2,910 acres are held as a reservation trust land for the Tohono O'Odham Nation and have been used for agriculture thus far, and 66,266 acres are owned by private individuals and corporate entities. The climate of Pinal County consists of long hot summers, short mild winters, and an annual rainfall of approximately 8 inches. The CAIDD has two principle sources of water: Central Arizona Project water & groundwater pumped from approx 350 wells leased from landowners.

The CAIDD Board of Directors consists of nine members, elected to staggered three-year terms, and representing one of the three election divisions of the County. Officers are elected by Board members with one exception: the Treasurer of Pinal County serves ex-officio as treasurer of the District. The Board of Directors of the CAIDD is authorized to:

- Acquire water rights, real estate and personal property; construct or acquire canals, water, water rights, rights-of-way and other irrigation works;
- Provide for the construction, operation, leasing and control of electrical generation and distribution plants;
- Establish charges for water or electricity; defend and prosecute legal proceedings; enter into construction contracts after solicitation of sealed bids;
- Acquire by purchase or condemnation existing irrigation systems or rights-of-way necessary for irrigation works;
- Levy taxes and assessments and generally enter into enterprises and occupations with the powers and privileges of municipalities under State law.

After obtaining the approval of the District's voters in a duly held election, the District is authorized by the Act to issue bonds and to enter into obligations to, or contracts with, the United States Government for the purpose of constructing irrigation works or supplying water for the District

The CAIDD has a staff of 6 office personnel and 47 field and operations personnel. The General Manager is appointed by the Board of Directors. His function is a dual role, serving as General Manager of Electrical District No. 4 as well, which provides electrical services to more than 200 irrigation wells in the District.

Electrical District No 4 has approximately 230 miles of electrical lines and approximately 850 meters. Electrical District No. 4 owns one substation and also receives power at another substation owned by Western Area Power Administration. Approximately 88% of electricity supplied is for irrigation pumping, and 12% is for residential, commercial & agriculture related services. Electrical District No. 5 has approximately 140 miles of electrical lines and approximately 314 meters. Electrical District No. 5 does not own their substation; they lease it from the Arizona Power Authority.

Both of these Electrical Districts are governed by Boards of Directors, which consist of five elected members who are landowners and farmers. Their purpose is to provide a power supply for commercial agricultural purposes for pumping groundwater. Their goals and objectives are to:

- Provide water and reliable electric power at the lowest practical cost;
- Ensure their management is consistent with sound business principles;
- Enhance their customer's financial stability by providing services that enhance property values and provide long-term stability in water and electric power rates.

Electrical District No. 4 has no employees; they are managed entirely by the CAIDD. Electrical District No. 5 has a manager but also contracts much of its management and operation responsibilities to the CAIDD.

# Annexure E

## Annexure E

### Some Notes Collated from Various Information Sources

***(Please refer to the list of inputs and links at the end of this annexure. The initial discussions below have been distilled from a comparative analysis conducted by Stephen Hodgson)***

#### **Germany**

The German legislation permits Water User Organizations (WUOs) to undertake a broad range of tasks relating to the use and management of water (e.g. German Water and Land Associations).

Article 2 of the Federal Water and Land Association Law of 1991 lists the types of tasks that can be carried out by associations. These tasks include:

- a) the expansion of watercourses, including restoration and maintenance which respects the natural environment;
- b) the construction and maintenance of facilities in and along watercourses;
- c) the construction and maintenance of rural roads and streets;
- d) the construction, acquisition, operation and maintenance as well as the removal of communal facilities used for agricultural purposes;
- e) sea defence and flood protection, including necessary measures on the land near dykes;
- f) the amelioration of agricultural and other land, including the management of the soil water and soil air table;
- g) the construction, procurement, operation, maintenance and disposal of irrigation facilities as well as facilities for irrigation and drainage;
- h) technical measures to manage groundwater and surface watercourses;
- i) disposal of waste water;
- j) disposal of waste arising in connection with tasks carried out by association;
- k) procurement and provision of water;
- l) establishment, maintenance and care of land, facilities and watercourses in order to conserve the balance of nature and the soil and in order to cultivate the landscape;
- m) promotion of co-operation between agriculture and water management and further development of water, soil and nature conservation; and the
- n) promotion and supervision of any one of the aforementioned activities.

With the exception of those that are compulsorily established, each WUO is free to decide which of these tasks it will carry out. The decision whether or not to

carry out a particular activity will depend largely on the willingness of the organization's participants to finance it.

Sometimes, as in Germany for example, this public law status means that the legislation provides that WUO employees may be granted the status of civil servants. But this is unusual.

The provisions of the German law are also broad enough to include towns and cities. The Federal Association Law recognises five kinds of WUO participant. These are:

- ✓ owners of plots of land and installations, leaseholders and owners of mines;
- ✓ persons for whom the association carries out tasks which such persons would otherwise have the duty to carry out themselves;
- ✓ other bodies under public law;
- ✓ other natural or non-natural private persons, subject to the permission of the supervisory authority; and
- ✓ constructors of traffic installations not included in the first.

In Germany, the legislation permits a degree of flexibility regarding internal institutional arrangements. It stipulates that WUOs must have two basic organs, namely:

- a) the 'Assembly of Association Members'; and
- b) the 'Chairman of the Assembly'.

In cases where the assembly is too large to be efficient, the governing document can contain provisions for the creation of an 'Assembly Committee', consisting of representatives elected by the members of the WUO. Instead of providing for the appointment of one individual as Chairman of the Assembly, the governing document can provide for the creation of a 'Management Board'. The law states that where the governing document provides for the direct appointment of a chairman, that person has the title 'Chairman of the Association'; where the governing document provides for the creation of a Management Board, the Chairman of the Management Board is at the same time designated Chairman of the WUO. In practice, however, German WUOs often have both a general assembly and a management board.

In Germany votes are allocated to each member in accordance with the 'benefit' gained by that member from the Water and Land Association's activities. In practice this is calculated by reference to the amount of fees each member is charged which is in turn calculated at a flat rate by reference to the size of their land holding.

German WUOs frequently raise money by bank loan or overdraft. What is curious is that the land that is served by the WUOs, and which belongs to individual WUO

participants, can be provided as collateral, even though it is not actually owned by the WUO. In other words the WUO can effectively impose a lien over the land of its participants in respect of its own borrowing. Whether or not such arrangements might be open to legal challenge is an interesting question that has never been brought before a court.

In contrast, in countries with a long and successful WUO tradition the supervisory role of the German regulator (government authority) appears to be somewhat residual. It may be restricted to routine auditing activities, with power to step in and take action only if problems are detected. Germany provides a good example. The role of the regulator is limited to an auditing and residual legal supervisory function. Specifically, a decision of a WUO can only be challenged by the regulator in the courts if it is actually illegal. Elsewhere though, the state plays a more active role in overseeing the routine operation of WUO.

In Germany the Federal law is silent on the rights of WUOs to obtain water rights but it does provide that the state (*Land*) government may transfer ownership of infrastructure to WUOs, and to associations of WUOs.

A related issue concerns the right of a WUO to expropriate land in order to fulfil its tasks. Indeed the German legislation provides that if the use of land by a WUO on the basis of a right of access is such that the land owner can no longer reasonably be expected to use the land himself, the latter can call upon the WUO to expropriate the land. Again, such a right is more likely to be granted to a body of public law.

However the German legislation carefully regulates the scope of such activity. WUOs may only expropriate land that is necessary for them to fulfil their tasks that lies within their 'operating area'. Furthermore, expropriation is only permitted in individual cases provided:

- it is necessary in the common interest of the WUO and the purpose of expropriation cannot be fulfilled by any other reasonable means;
- the WUO made a bona fide attempt to directly negotiate the purchase of the subject of expropriation at acceptable conditions which attempt was unsuccessful; and
- the WUO can show that the object of expropriation will be used for the intended purpose within an acceptable period.

In Germany, the right of a WUO to take direct enforcement measures, such as cutting off a participant's water supply in order to enforce the payment is not spelt out in the WUO legislation but derives from the public law status of WUOs. Under German law, if WUOs were established under private law, it would be necessary for them to start court proceedings against the member and wait for a court decision to be issued in their favour before they could resort to such enforcement measures.

## **France**

The French legislation also enables WUOs to undertake a wide range of tasks, some fifteen in all, relating to the construction and operation of works, including works relating to irrigation and drainage. Many of these tasks have been added by amendment since the law was originally enacted in 1865.

These include the construction and maintenance of works:

- ✓ to prevent water pollution (added in 1959);
- ✓ to recharge aquifers (added in 1964); and
- ✓ to protect land against the sea, rivers, torrents, navigable and non-navigable rivers as well as forest fires, erosion, avalanches, rock and boulder falls, land slides and volcanic eruptions (added in 1985).

The French legislation expressly provides for WUO membership by state officials. Therefore, in respect of the land assets of a government *département*, the prefect can become a WUO member; in the case of the land assets of a commune or public establishments, the mayor or establishment administrator may do so; and the Minister of Finance can become a WUO member in respect of state assets.

With regards to revenue collections and expropriation powers referred to in the German section above, similar recovery powers are conferred on French WUOs. French WUOs are granted priority after the payment of land taxes against the harvests, fruits and rents/revenues relating to the land that benefits from the WUO. In essence it holds the same enforcement powers as those held by the tax authorities.

## **Netherlands**

The Dutch organizations have probably the longest continuous history. While their focus is very much on water management, their role too has also developed to encompass a wide range of other activities. According to the current legislation they have three main responsibilities:

- ✓ water quantity, which includes the management of water levels;
- ✓ water quality, which includes the prevention of water pollution and includes the issuing of waste water permits and licences; and
- ✓ water control, which includes the protection against flooding by means of dunes, dykes, canals, dams and locks.

In the Netherlands, WUOs operate according to the principle of "pay, say and interest". Only those persons with an interest in local water management ('stakeholders') pay for the activities of, and are represented in, the WUO.

The greater an individual's 'interest' in a WUO's activities, the more that individual pays. The legislation lists the following categories of stakeholders:

- ✓ the owners and tenants of land;
- ✓ the owners of buildings;
- ✓ the users of buildings for commercial purposes; and
- ✓ the inhabitants of the area concerned.

In the Netherlands, the management board members are chosen from and appointed by the general assembly to serve a four year term of office. They receive a salary from the WUO as their membership of the management board is a full-time commitment. Each member is responsible for a separate portfolio of tasks.

Dutch WUOs are entitled to formulate and adopt binding operating rules (*keur*). Such operating rules may define rights of way, maintenance and operation issues, the issuance of wastewater permits and licenses, inspection, damages, and the imposition of fines and other measures.

The Dutch legislation sets out in detail the procedures for dealing with infractions of operating rules. Each WUO appoints inspection and control officers who have the power to draw up an official report (*proces-verbaal*) on the infringement or violation of its operating rules. They may also be competent to control compliance with central governmental and provincial regulations. Within four weeks of drawing up their official report, the officers can decide to settle the case with the violator(s) concerned. If they do not settle the case, it is up to the judicial authorities to initiate legal proceedings. In addition, the WUO may use administrative force (*bestuursdwang*), whereby after proper notice, the Executive Board (or in situations of emergency, the Chairman) can perform the necessary actions to halt infringements or violations and recoup the costs afterwards

### **England and Wales**

In most parts of the world, including England and Wales, the legislation confers the necessary powers on WUOs to make their own internal 'operating rules'. Such rules can address such issues as voting procedures, water management practices and so forth. Again a variety of terms are used in the legislation for what are described in this study as 'operating rules', including 'rules', 'by-laws' and 'regulations'.

In England, participation in a WUO depends on land classification. Every 'occupier' of land classified as 'agricultural land' within a 'Drainage District', is a WUO participant. As such they must pay drainage fees but they may also stand for office and vote in elections to the WUO's management board. An occupier may be the owner, a tenant or some other user. On the other hand, the occupiers of non-agricultural land within a Drainage District have no direct legal

rights to participate in the functioning of the WUO, but nor do they pay drainage fees directly either. This is because every occupier of non-agricultural land must pay a local tax, called the 'community charge', to their local authority (municipality). Agricultural land, however, is not subject to the community charge. As regards non-agricultural land within a Drainage District the community charge includes an element to cover the drainage costs of the relevant WUO which are passed on to it by the local authority. Each local authority is in turn entitled to be represented on the WUO's management board, thereby maintaining, albeit somewhat indirectly, the principle of beneficiary representation.

In England and Wales, votes are allocated for elections to Internal Drainage Boards on the basis of the 'assessable value' of the land (which is calculated by reference to the notional rental value of the land). The occupier of land with an assessable value of less than £50 is allocated one vote and then one additional vote is allocated for incremental increases in the assessable value of the land up to a limit of ten votes for land with an assessable value of more than £1,000.

In England, if the 'Drainage District' of a WUO (in other words the land area that it serves) includes non-agricultural land that is under the responsibility of a local authority (municipality) which must pay drainage fees to the WUO, that body is entitled to appoint a number of members of the management board in proportion to the size of its contribution.

Drainage rates are calculated by each WUO by reference to its actual operating expenses. Individual rates for each participant are then assessed and applied by reference to the 'Assessable Value' of agricultural land. This is determined by the notional rental value of the land in accordance with specific criteria described in the law. The higher the Assessable Value of the land the greater the individual drainage rate payable by the occupier of the land will be.

In practice, members of WUO management boards are generally unpaid, particularly in those countries with a long WUO tradition. For example, in Spain to serve as an official of a WUO is seen as a matter of honour, and similarly the long tradition of voluntary public service finds its expression in English WUOs.

Nevertheless, although board members do not receive a salary, provision is sometimes made in the legislation for the payment of expenses or a sitting allowance to management board members. In some cases this is stated in the legislation, elsewhere it is implicit. To avoid the situation where such rules are circumvented by the board members being employed in another capacity by the WUO, the legislation often bars WUO employees from standing for election.

## **Romania**

Romanian legislation provides that the general assembly of each WUO has the exclusive right to deal with the following matters:

- ✓ amendments to the statutes;
- ✓ approval of the accounts, annual report and proposed budget;
- ✓ approval of the operation and maintenance plan;
- ✓ approval of the cropping plan, the irrigation schedule and plan, and the operation and maintenance plans;
- ✓ the level of fees, charges and penalties to be levied by the association;
- ✓ the kind of sanctions to be imposed by the association upon members;
- ✓ appointment and dismissal of the members of the management board and the chairperson;
- ✓ amendments or alterations to the organizational structure of the association;
- ✓ decisions on whether to remunerate the management board and the chairperson, and if so, the level of remuneration to be paid;
- ✓ the creation of other paid posts;
- ✓ the merger of the association with another association and its membership of a federation; and
- ✓ the dissolution and liquidation of the association.

### **Spain**

Votes in Water Communities are allocated by reference to the volume of water used.

### **Turkey**

Turkish Water User Organization Law describes the duties and powers of the management board as follows:

- ✓ The register of members to the organization;
- ✓ To perform the duties stated in the law, statute, regulations and related legislation and to use its powers to administer the organization;
- ✓ To elect the deputy director for cases when the director is absent, with majority of votes among themselves;
- ✓ To prepare the budget, final account and related reports, to deliver the fee and fine tariffs to the approval of the council;
- ✓ To apply the fine tariffs in accordance with their acts to those who act in contrary to the work subjects defined in Article 22 of this law, the provisions of the main statute, fee tariff and regulations published;
- ✓ To make transfer between the payment titles;
- ✓ To make negotiations before the concerning banks and establishments for the supply of foreign or local credit, which is decided to be used by the organization council;

- ✓ To examine and approve the specifications of overbidding, underbidding, procurement and purchase decisions;
- ✓ To employ the required personnel in accordance with the council decisions;
- ✓ To sign agreements with the state institutions, in accordance with the council decisions, concerning the work subjects of the organization;
- ✓ To prepare the draft regulations of the organization and, if required, draft amendments of the main statute and deliver to the approval of the organization council.

### **General**

The above extract of relevant information has been sourced with thanks from the United Nations Food and Agricultural Organization's paper on legislation on water users' organization (Stephen Hodgson, Rome 2003).

Other websites (especially in the United Kingdom) were consulted. It was impossible to distil this information on paper within the scope of the current investigation.

Further inputs on Australian and South African models were based on the author's first hand experience and various documents that re referred to below.

### **South Africa**

Please refer to the following website resources:

- ✓ <http://www.dwaf.gov.za/Documents/Default.asp?Legislation>  
Refer of the Water Legislation section for an overview of water management institutions and the new water law.
- ✓ Please refer (on the next page of his annexure) to the table of contents of the overview document on water institutions in South Africa.
- ✓ The above-mentioned webpage and related South African Department of Water Affairs and Forestry sections contain a vast volume of policies, discussion papers, etc.

P.T.O.



# CONTENTS

Purpose of this guide .....	5
Who should read this guide? .....	5
What is covered in this guide? .....	5
<b>PART 1: THE WATER RESOURCES MANAGEMENT FRAMEWORK .....</b>	<b>6</b>
Overview of water resource management institutions within the framework .....	6
<b>PART 2: CATCHMENT MANAGEMENT AGENCIES (CMAs) .....</b>	<b>10</b>
What is a catchment management agency? .....	10
What is the purpose of a CMA? .....	10
How is a CMA established? .....	11
Phases of the CMA establishment process .....	12
Proposal to establish a CMA .....	13
Which bodies can assist in the establishment of a CMA? .....	14
The Governing Board of a CMA .....	16
What are the roles and responsibilities of a CMA? .....	17
Bodies that can support a CMA with its functions .....	22
To whom can a CMA delegate its powers? .....	24
How is a CMA funded? .....	25
Powers of the Minister in terms of CMAs .....	26
<b>PART 3: WATER USER ASSOCIATIONS (WUAs) .....</b>	<b>27</b>
What is a water user association? .....	27
What is the purpose of a WUA? .....	27
How is a WUA established? .....	28
How is a WUA funded? .....	33
Accountability of a WUA .....	33
What are the roles and responsibilities of a WUA? .....	33
Powers of the Minister in terms of WUAs .....	35
<b>PART 4: INTERNATIONAL WATER MANAGEMENT BODIES .....</b>	<b>37</b>
What is an international water management body? .....	37
What is the purpose of an international water management body? .....	37
How is an international water management body established? .....	37
What are the roles and responsibilities of an international water management body? .....	38
Powers of the Minister in terms of international water bodies .....	38
<b>PART 5: GENERAL .....</b>	<b>39</b>
Additional Guidelines .....	39

## **Australia**

Please refer to the following website resources:

- ✓ <http://www.nwc.gov.au/NWI/index.cfm#overview>  
This site provides an overview of the National Water Initiative in Australia. One can follow links to specific watershed organizations.

Here are a few notes collated from discussion papers prepared by old colleagues (main credit to D Viljoen of the Department of Water Affairs and Forestry in South Africa).

### *Australian approaches*

#### a. Separation of commercial and non-commercial water

In Australia, the functions of water supply and sanitation provision are being separated from the non-commercial function of catchment and waterway management, unless it is more practical not to do so on a local basis. Water authorities and supply boards are being regionalized (for greater efficiency and economy of scale) and commercialised (as opposed to privatised). The supply agencies thus become bulk users of water and/or effluent dischargers, and are subject to the same licensing procedures as other catchment stakeholders.

Metropolitan water supply agencies will be allocated a bulk water entitlement, which they in turn allocate to domestic and industrial consumers. Rural water boards will further partition their bulk entitlement to agricultural and rural domestic users. Legally defensible water entitlements will be granted to the environment. Bulk water entitlements will be tradable, at real market-related prices.

#### b. Catchment and waterway management

Catchment and waterway management remains the responsibility of the Environmental Protection Agency (EPA) and relevant government departments, such as Water Resources, Agriculture, and Environment. Management attention is focused primarily on identifying, controlling and remediating land use activities which have impacted, or are impacting, on water resources.

Impacts in catchments can broadly be grouped into:

- point sources;
- diffuse sources and the impacts of land use or land degradation; and
- degradation of the instream and riparian environment.

Point source discharges are subject to control by the EPA, who issue works approvals (permits). The criteria for discharge to the water environment are

generally site-specific, though subject to certain minimum industry or State standards. Criteria would be based on receiving environment objectives for the local area in question. In many catchments, these objectives would have been set after negotiation amongst stakeholders, through a catchment board or committee.

Land use impacts and degradation of the instream environment might be related to industrial or urban development, which would be subject to control by the EPA or a government department. Where land use impacts arise from agricultural or forestry practices, then a much stronger emphasis is placed on community-based management and action.

c. Community involvement in land and water management.

The most urgent and potentially damaging issues facing the rural Australian sector are salinization and nutrient enrichment of water resources. Salinization arises from two principal causes:

- dryland salinity, which is related to the clearing of deep-rooted forests for agriculture or commercial wood harvesting; and
- irrigation salinity, which occurs when irrigation leads to a rise in the water table, bringing very saline groundwater to the land surface.

Nutrient enrichment is a result of leaching of agricultural fertilisers, discharge of sewage effluents, runoff from agricultural land, and uncontrolled access to water bodies by stock animals. In such cases, water resources management is very closely tied to land management. The problems can only be solved by changes in land use practices at a very local level.

The lead government agency, which may be a department responsible for water resources, environment or agriculture, usually takes the lead in identifying problems through monitoring. The lead agency then plays a critical role in initiating discussions with stakeholders in the catchment and establishing a catchment committee or board, which is representative of the interest in the catchment. The committee, under the guidance of the lead government agency, will usually begin by focusing on a priority problem, such as salinity or algal blooms. Again with guidance and technical support from a number of government agencies, the committee will develop long term objectives, a strategy and an action plan for dealing with the problem.

The initial focus on a priority problem creates cohesion in the group, and ensures that people get involved because they have a real interest in the outcome. As capacity is developed in the committee or group, they can then go on to address other issues in the catchment through the same process, and again with support from the government agencies.

The EPA and supporting government agencies provide the committees with a broader context for development of catchment plans: the objectives

and plan for the catchment do need to fit within wider state and national interests. Once the objectives and plan have been developed, statutory support is provided by the EPA, who gazette the objectives, responsibilities and roles of the various agencies and stakeholders in a State Environment Protection Policy paper (SEPP). The SEPPs are catchment-specific, and subject to review every ten years or so. The EPA or a delegated agency is responsible for monitoring and assessing progress towards the achievement of objectives.

The catchment committees are formally constituted bodies, but have very little statutory power themselves: enforcement is still the role of EPA or a government department. The committees have more of a planning function. The lead government agencies provide a very strong "extension service", in their role of technical guidance and support. They may also provide funding for initial scientific/technical investigations, and for the running costs incurred by the committee (such as travel, secretariat).

The extent of the initial priority problem or issue may determine the extent of responsibility which is taken up by a catchment committee, and also the geographical boundaries of responsibility. These are fairly flexible. Sub-catchment committees can later be coordinated under a larger catchment committee or forum.

Once an action plan has been developed, it then remains for individual landowners to implement the relevant land use practices (such as replanting deep-rooted trees, installing drainage, irrigation management). Here the Australian approach is to rely on voluntary compliance, rather than centralized "command and control". It is considered that voluntary compliance, as a form of self-regulation, is more acceptable in Australian society, and also more cost-effective, since fewer resources are required to monitor and enforce compliance.

Self-regulation is admittedly not 100 % successful, but is widely encouraged through community groups such as Greening Australia and Landcare. National Landcare appears to be the key to achieving success in changing land use practices: farmers or groups can apply for grant funding or tax incentives to assist them in implementing on-farm management which complements the catchment plan. Excellent technical and educational support is also provided. (Urban Landcare is now in the early stages of development.)

P.T.O.

## **Generic**

Hodgson (UNFAO report 2003 referenced above) provided a list of generic functions that he gleaned from around the world.

Typical characteristics of public law bodies are that they:

- ✓ are created by means of a decision of the government or a government official such as a minister or prefect;
- ✓ have independent legal personality;
- ✓ confer specific legal rights and duties on their participants;
- ✓ are generally democratically structured;
- ✓ undertake specified tasks in the public interest, and may be granted special powers or privileges;
- ✓ usually use public resources; and
- ✓ are subject to specific government supervision to ensure that they fulfil their tasks properly.

On a practical level, the creation of WUOs as bodies of public law can make it easier to confer a range of benefits and advantages on them through legislation. These include:

- ✓ the right to compel compulsory participation in the WUO;
- ✓ tax benefits;
- ✓ authority to levy and collect compulsory charges and assessments;
- ✓ special enforcement measures;
- ✓ rights to water;
- ✓ rights to acquire ownership or use rights over state owned infrastructure (and associated land); and
- ✓ powers to gain access to and to acquire privately owned land.

### *Financial provisions*

Except in cases where WUOs are responsible for water management on a very small scale, and can operate solely on the basis of contributions in kind from participants, WUOs invariably need to secure funding in order to cover their costs. Such costs will include some, or all, of the following:

- ✓ the cost of obtaining a permit to abstract and use water and/or to drain water or to dispose of wastewater together with any water use and wastewater disposal charges payable pursuant to such permit;

- ✓ charges in respect of water supplied to the WUO on a contractual basis by a state agency (such as an irrigation agency) or some other bulk water supplier;
- ✓ the WUO's own costs of operating and maintaining the infrastructure under its authority which may include staff salaries, office expenses (including the costs of rent, utilities and communication), operation costs including the costs of electricity if pumps are used, system maintenance including routine and annual maintenance, the maintenance of an emergency reserve fund, small replacement fund, transport expenses, purchase of equipment, social charges and taxes; and
- ✓ investment costs for the construction, rehabilitation or reconstruction of infrastructure.

All of the legislation reviewed permits WUOs to make internal 'operating rules'. In the case of a WUO established under private law, those rules will usually only be applicable against participants. As private law WUOs are invariably established on a membership basis, it follows that their operating rules will only be applicable to their members. In the case of a WUO established under public law, such rules may be applicable against any person within a specified geographical area, usually the area of operation of the WUO, whatever their formal relationship with it.

Making rules, however, is only part of the equation. The need for bodies like WUOs to have the necessary powers to impose sanctions on those who breach their rules is well recognised in both the literature and practice. Consequently the legislation reviewed invariably confers the necessary powers on WUOs to impose sanctions for the breach of their operating rules.

The most common breach of WUO operating rules is often the non-payment of fees and charges to the WUO. The legislation sometimes also mentions damage to structures and property owned by a WUO. Other breaches relate to the operating rules themselves, which by their very nature are not specified in the legislation. These might include water theft and taking water out of turn in the case of irrigation WUOs, blocking access for inspections and works and so forth.

What types of sanction are foreseen? Typically the legislation provides that a WUO may fine a wrongdoer. In more serious cases a WUO may be entitled to temporarily suspend the provision of services to the wrongdoer. In the case of membership WUOs, the ultimate sanction is usually expulsion from the WUO, with the loss of rights and privileges that attach to membership including the right to water at a cheaper rate than payable by non-members.

*END OF NOTES IN ANNEXURE E*