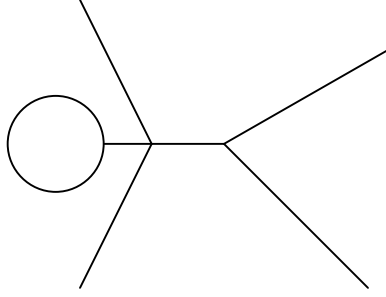
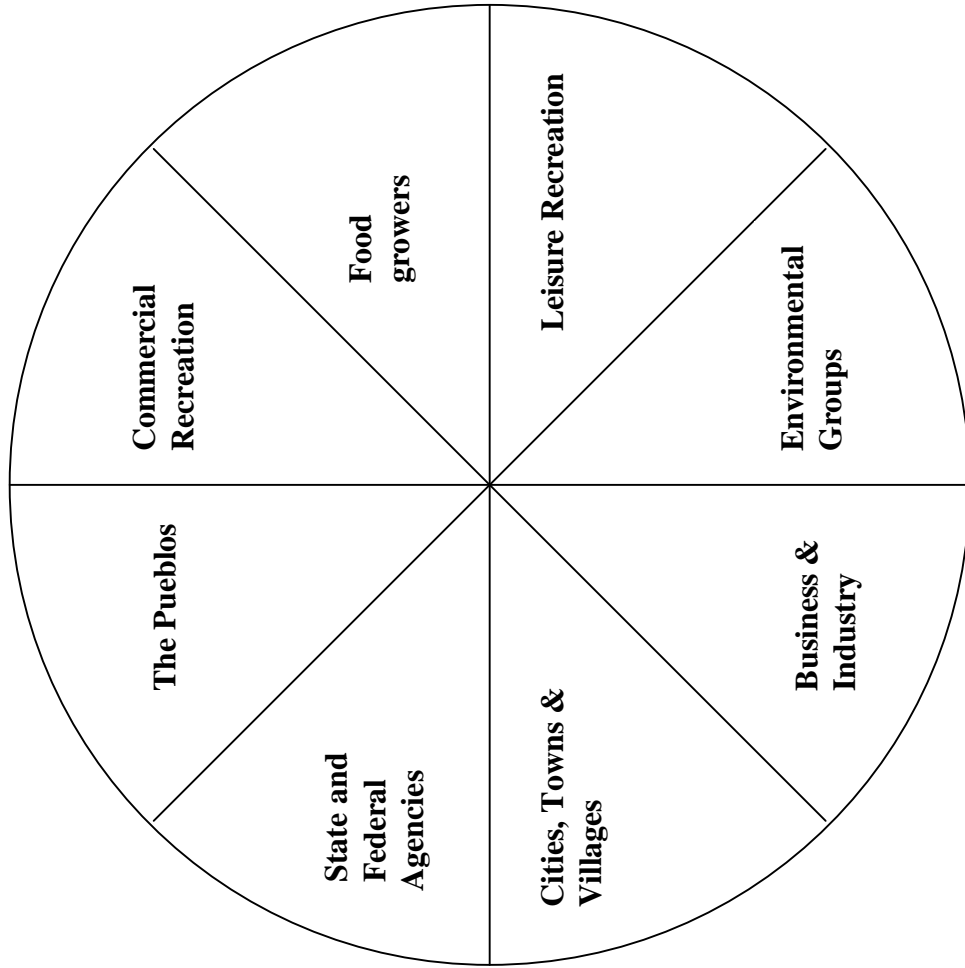


# Interests in the River System



## Handout 3: What are Self-Interests and Interest Groups?

In the United States we believe that the individual is very important. Under our laws, a person has a right to do what he/she pleases as long as it doesn't hurt others. For example, we all have the right to say what we believe, to travel where we want to go, and to choose the kind of work we want to do.

### Self-Interest

Each of us looks out for our own self-interests. This means that we try to make sure the things we are interested in are protected. We try to protect our freedom of speech and travel. We want to be able to make our living in the way we choose. Most people follow their interests individually. A single voice, however, is often not heard. This can be especially true in government; therefore, people often join together so their opinions will carry more weight.

### Interest Groups

When people join others with similar interests, they form interest groups. People in interest groups share common needs, beliefs or concerns. Interest groups sometimes promote their interests by trying to influence laws and decisions made by the government.

There are two types of interest groups. Special interest groups promote the interests of their members. The National Cattlemen's Association helps its members make sure that government laws and regulations do not harm their members' ability to make a living from raising cattle. Public interest groups form to defend the interests of the public as a whole. Groups supporting a healthy environment, such as the Sierra Club, work in the name of everyone in the present and in the future. As individuals they do not personally profit from the goals of the organization except in an abstract way. For example, they work for a clean and healthy environment.

These two types of interest groups often clash because their interests are in conflict. The cattlemen want to use public lands for grazing at a reasonable fee. They maintain that it is necessary to kill predators such as coyotes and hawks in order to protect their cattle. The Sierra Club wants the grazing fees raised, cattle limited and predators left undisturbed. So each interest group—because of its own needs, beliefs, and concerns—tries to influence the laws and decisions made by the government.

Many of us from time to time belong to both types of interest groups. One may be a cattleman and also belong to the Sierra Club. Both types of interest groups are necessary in forming public policy. From the clash of the interests comes a greater understanding, which helps shape the way we look at problems. This understanding goes into the making of better laws and decisions made by the government.

## Handout 4: Role Profiles

### Role #1 The Pueblos

My name is Bonita Velardez. I am a Native American who lives in a Pueblo next to the Rio Grande south of Albuquerque. I am proud to be the first woman governor of my Pueblo. **Pueblos are important** because we are the oldest users of the river system. This gives us prior claim or a legal right to use water first. **We are also important** because we have the same power as states to issue water quality standards and permits to discharge wastes into the river. This makes us an important force in deciding river issues.

#### What is my use of or interest in the river system?

We have depended on the river for centuries. We have used its water for irrigating our gardens and for our religious ceremonies. These ceremonies require bathing in and drinking the water of the river. During my lifetime I have seen the water of the river change. The cycles of the river are not what they used to be. No longer do the cleansing floods come past our Pueblo. The water is no longer clean to drink or use in ceremonies. The Environmental Protection Agency has declared the water from the Rio Grande as it comes to us to be unhealthy even for chance contact during recreational activities.

#### How does my use or interest affect the river system?

As Governor of my Pueblo, I have the responsibility to work with others to make the Rio Grande pure and healthy as it once was. Our Pueblo now has the same power as the State of New Mexico in deciding how clean the river water should be. We have set high water quality standards. We are asking cities and towns to further purify their waste water before it is put into the river. We are asking industry and agriculture to do everything they can to prevent contaminants from entering the river.

We know that some contaminants come from our own village and tribal land. Some houses in the village do not have good septic systems. The sewage seeps into the ground and sometimes contaminates neighbors' wells. Twenty years ago our Pueblo leased some of our land to a tool-making company. Today that section of land is covered with green dust. Bullfrogs nearby have been found with ugly growths and open sores. We know this is a sign that the land and water have been poisoned. Our tribal council is working to clean up this area and to correct our own contamination of the river system.

#### What are my concerns?

**The Pueblos along the Rio Grande are concerned about the health or quality of the river water. We are also concerned about ill feelings from upstream communities toward the pueblo because of our strict water quality standards.** We are involved with discussions with industry, agriculture and city governments on water quality issues to improve the environment for everyone. Because the river comes to us so polluted, it threatens our religious ceremonies and Pueblo way of life. **Recreational users mean less privacy for the Pueblo.** We ask all people that use the river to respect our traditional way of life. If you are fishing, boating or simply hiking, respect our privacy!

## **Role #2 The Pueblos**

My name is Joe/Joyce Sanchez. I have lived in this northern Pueblo all of my life. I work for the N.M. Environment Dept. I also serve on my village Tribal Council. The **Pueblos are important** because we are the oldest users of the river system. This gives us prior claim or a legal right to use water first. **We are also important** because we have the same power as states to issue water quality standards and permits to discharge wastes into the river. This is making us an important force in deciding river issues.

### **What is my use of or interest in the river system?**

A healthy river system with its bosque is very important to our **culture (way of life)** and to our religion. We watch and observe the river system and learn from it. Our religious beliefs stress that life is a unity of all nature. Damage to one part causes damage to all. We use the river system to irrigate our fields to grow the crops that feed our people and are sold to non-Indians.

We collect clay and grass from the bosque to make pottery and baskets. Many of our artisans make their livings from selling their pots and baskets. We gather wood to build and heat our homes. We hold ceremonial hunts for feathers and furs to make sacred objects. We allow non-Indians to pay to picnic and fish in the natural lakes and to launch boats from our river access areas. Tourist dollars bring income to our Pueblo.

### **How does my use or interest affect the river system?**

My Pueblo does little to affect the river because continued practice of our culture and religion demands a clean river and healthy bosque with good vegetation. When we cut shrubs and trees we are careful about what we take so that it will grow back again.

We use the river system wisely so that it has the **ability to sustain** or support life not only for now but in the future. Non-Indians call this **sustainability** (su stain'a bil'i ty).

My Pueblo now has the same status as states to issue water quality standards. We are demanding that the water coming to us be cleaned up to meet our standards. This is not making some of the upstream users very happy.

### **What are my concerns?**

The Pueblos are concerned about the quality of the water. We are also concerned about ill feelings from upstream communities toward the pueblo because of our strict water quality standards. People dump trash in the ditches or acequias that are used to take water from the river to our fields. I find dead animals all along the ditches--horses, dogs in plastic bags, etc. Science laboratories long ago dumped harmful materials in places where it now leaks into the river system. We are told that it is not harmful, but we worry. Because the river comes to us so degraded, it threatens our religious ceremonies and Pueblo way of life. Recreational use means less privacy for the Pueblo. We do not oppose this so long as other users respect our beliefs and privacy. Fishermen, boaters and picnickers often do not.

### **Role #3 The Pueblos**

My name is Raymond/Ramona Montoya. I live in a Pueblo located on the Rio Grande north of Albuquerque. I teach at the Santa Fe Indian School. **Pueblos are important** because we are the oldest users of the river system. This gives us prior claim or a legal right to use water first. **We are also important** because some Pueblos have the same power as states to issue water quality standards and permits to discharge wastes into the river. This is making us an important force in deciding river issues.

#### **What is my use of or interest in the river system?**

We have lived here for centuries. We have used the water from the Rio Grande to irrigate our crops of corn, beans, squash, and other vegetables. Our animals graze on pastures that the river water makes green and lush. Our acequias or system of ditches that irrigate our crops are very old. They are tied to the spirituality of the community. The Mayordomo or chief officer of the acequias is officer for life as well as a spiritual leader of the Pueblo.

Some years ago we allowed a dam to be built on the **mainstem** of the Rio Grande on our land. Because the ground beneath the dam is mostly gravel, some of the water from the reservoir has seeped into the water table beneath our fields. This additional water has caused the water table to rise to the surface. Many of our gardens and fields are now water-logged. They are no longer useable for agriculture.

#### **How does my use or interest affect the river system?**

Because our use of the river system has been agricultural, we have asked the Army Corps of Engineers, the builders of the dam, to do something about this problem.

They are now going to build a system of drainage ditches to try to dry out the land. We hope this works. But we wonder what other effects that will cause.

We don't affect the river system in any significant way. We sure have suffered, however, from what others have done. Since the river is so important to our culture (**way of life**) and religion, this makes us very sad. Some Pueblos now have the same status as states to issue water quality standards. We hope this will begin to make a difference.

#### **What are my concerns?**

**The Pueblos are concerned about the quality of the water.** Science laboratories long ago dumped harmful materials in places where it now leaks into the river system. We are told that it is not harmful, but we worry. People upstream dump trash in the ditches and arroyos. Most of this stuff ends up in the reservoir behind the dam near our Pueblo. Because the river comes to us so degraded, it threatens our religious ceremonies and Pueblo way of life. **Recreational users means less privacy for the Pueblo.** We do not oppose this so long as other users respect our beliefs and privacy. Fishermen, boaters and picnickers often do not.

## **Role #4 Food Growers**

My name is Nick\Nikita Farmer. I own and manage one of the largest irrigated farms in the Mesilla Valley near Las Cruces. **Food growers are important** because we provide the food that people eat. We employ many people to work on our farms and ranches. We buy many of our supplies and equipment from local stores. This helps the economy.

### **What is my use of or interest in the river system?**

On my farm we grow hay, wheat, *chile*, cabbage and onions on more than 1400 acres. Since we live in a very dry area, all of these crops require irrigation water. We get this water from the Rio Grande. We own water rights which lets us take water from the river. Of all of the water used in New Mexico, irrigated agriculture uses almost 80% of the total.

The water that we use is stored in Elephant Butte Reservoir. As farms like mine need the water, it is released into the Rio Grande below the dam. It then goes into ditches to get to our fields. We pay almost \$60,000 a year for our irrigation water. Although this seems like a lot of money, it would be much more expensive to have to pump well water to our fields.

### **How does my use or interest affect the river system?**

My farm affects the river system in two major ways. First we take water out of the river to grow our crops. In the past several years we have tried to find ways to reduce the amount of water that we use. We have the latest technology to make sure we don't waste water. With a computerized laser system we level all of our fields. This ensures that no row gets too much or too little water.

Second, we add some contaminants to the river system. Irrigation water that returns to the river often has pesticides, salts, and fertilizers. By reducing the amount of water that we use on our fields, we return very little excess water to the river. Some of the contaminants sink into the ground with the irrigation water. Unfortunately, they might reach the ground water and could eventually go into the river system.

### **What are my concerns?**

**Food growers are concerned about the quantity and quality of irrigation water.** We need enough clean water to grow food. As cities grow, they want more of our water. Some recreational users and environmentalists want more water to stay in the river all year round (**a constant instream flow**). But we need the water during the growing season! The **quantity** of water doesn't seem to be enough to satisfy everyone's needs. And the **quality** of water is also a problem. Cities and industries add contaminants to the river which could hurt our crops.

## **Role #5 Food Growers**

My name is John/Juanita Longhorn and I have been a cattle rancher near Belen for most of my life. **Food growers are important** because we provide the food that people eat. We employ many people to work on our farms and ranches. We buy many of our supplies and equipment from local stores. This helps the economy.

### **What is my use of or interest in the river system?**

On our ranch, we use the river system in two indirect ways. First, we use water to irrigate alfalfa fields. The hay feeds our cattle all winter. We irrigate our fields with overhead sprinkler systems. The water comes from wells near the river. It would be cheaper to use water directly from the river, but we are not on a acequia or ditch system. We applied for a permit to drill wells to use that water for agriculture. Of all of the water used in New Mexico, irrigated agriculture uses almost 80% of the total.

Second, our cows graze on the grasses all over our large ranch. Some of the pasture is near the river and a small stream flowing into it. The grasses grow green and lush near the running water. The cattle sometimes drink from the stream even though we do have stock tanks. We have fenced our cattle off from the Rio Grande and bosque so that they will not harm that riparian ecosystem.

### **How does my use or interest affect the river system?**

Our use of irrigation water affects the river. The water from our overhead sprinkler systems comes from wells. These shallow wells draw underground water from the Rio Grande. This lowers the flow of the river. I am considering ways to conserve by planting pastures that require less water.

We now know about the effects of overgrazing. When cattle or other livestock eat too much of the vegetation, there is nothing to hold the soil in place during heavy rain storms. The soil is washed into arroyos and ends up in the river. This has happened in many parts of New Mexico. Our ranch has fenced large areas of rangeland, and we move our cattle often so that they will not overgraze the land. We are also thinking of fencing off the stream that runs through our ranch. This would keep the cattle from that riparian ecosystem and prevent the animal waste from adding contaminants to the river.

### **What are my concerns?**

**Food growers are concerned about the quantity and quality of irrigation water.** We need enough clean water to grow food. As cities grow, they want more of our water. Some recreational users and environmentalists want more water to stay in the river all year round (**a constant instream flow**). But we need the water during the growing season! The **quantity** of water doesn't seem to be enough to satisfy everyone's needs. And the **quality** of water is also a problem. Cities and industries add contaminants to the river which could hurt our crops.

## **Role #6 Food Growers**

My name is Eduardo/Edwina del Rio, and I am the owner of an orchard and fruit market located in Velarde in northern New Mexico. **Food growers are important** because we provide the food that people eat. We employ many people to work on our farms and ranches. We buy many of our supplies and equipment from local stores. This helps the economy.

### **What is my use of or interest in the river system?**

I grow apples, peaches, plums, grapes, and pears on almost 40 acres. I use the river system to irrigate my trees and vines. Although I sometimes think that my trees and vines require a lot of water, it is less than some crops. For example, pecan groves in southern New Mexico and alfalfa need even more water than my orchards. Of all of the water used in New Mexico, irrigated agriculture uses almost 80% of the total.

### **How does my use or interest affect the river system?**

My use of water from the river affects the river system in several ways. First, some of the irrigation water is lost. Some evaporates into the air, some is used by the trees and vines, and some sinks down into the ground to the water table.

Second, some of the unused water returns to the river with contaminants. Although we try not to use too many pesticides, we do spray our trees to kill damaging insects. Some of these are in the water that goes back to the river. We try to take only the amount of water that we need, but sometimes it is hard to control since we have so much to irrigate.

Third, by irrigating our orchards, we are extending the riparian habitat for some birds and other wildlife that live and feed in our orchard. If it wasn't for the water and trees, the land would be desert and would not attract so much wildlife.

### **What are my concerns?**

**Food growers are concerned about the quantity and quality of irrigation water.** We need enough clean water to grow food. As cities grow, they want more of our water. Some recreational users and environmentalists want more water to stay in the river all year round (a constant instream flow). But we need the water during the growing season! The quantity of water doesn't seem to be enough to satisfy everyone's needs. And the quality of water is also a problem. Cities and industries add contaminants to the river which could hurt our crops.

I am also concerned about people coming to use the river for recreation. Sometimes they cut the fences around my orchard and leave trash on the river banks. This is my land!

## **Role #7 Food Growers**

My name is Esteban/Esther Manzano. My family lives near the Rio Embudo in Embudo in Northern New Mexico. **Food growra are important** because we raise the food that we eat. What my family doesn't need, we sell in the Farmer's Market in Santa Fe. Many people look forward to buying our home-grown fruits and vegetables. I am also important because I represent a way of life and use of the river that has been in Northern New Mexico for hundreds of years.

### **What is my use of or interest in the river system?**

The Embudo River is a tributary of the Rio Grande. Before its waters reach the main river, the Embudo provides water for a large "acequia" system. My family's ancestors first arrived in this beautiful area in 1725. With their neighbors, they built a series of acequias to bring the river water to their homes and small farms. People used the water for growing food and for drinking and cooking.

We still use these same acequias or ditches to provide water for our gardens and orchards. Of all of the water used in New Mexico, irrigated agriculture uses almost 80% of the total. Even though most houses today use the water from wells for drinking and bathing, it is the acequia system that makes our community such a special place. Everyone works together in the Spring to clean and repair the ditches. When the water returns to our acequias, it is a time for celebration. We each are reminded how important water is to our lives. Without it, many of us would move to the cities and our lives would not be the same. Our language and our way of life would be lost to most of us.

### **How does my use or interest affect the river system?**

My neighbors and I affect the river system in several ways. By using the water from our acequias, we lower the level in the Embudo causing less water to go into the Rio Grande. We also affect the river system with our septic systems and use of fertilizers and pesticides. Some of these contaminants find their way into the Embudo River and flow downstream into the Rio Grande. A third way is by extending the riparian habitat. When we irrigate our gardens and orchards we provide a place where birds and other wildlife live. If we didn't irrigate, most of the land in our small valley would be desert.

### **What are my concerns?**

**Food growers are concerned about the quantity and quality of irrigation water.** We need enough clean water to grow food. As cities grow, they want more of our water. Some recreational users and environmentalists want more water to stay in the river all year round (**a constant instream flow**). But we need the water during the growing season! The **quantity** of water doesn't seem to be enough to satisfy everyone's needs. And the **quality** of water is also a problem. Cities and industries add contaminants to the river which could hurt our crops.

## **Role #8 Leisure Recreation**

My name is Kay/Kai Yak. I live near Albuquerque and am a part of a boating group called the Whitewater Runners. **Leisure recreation is important** for mental and physical health. It provides relaxation away from hectic work schedules. My sport also helps the economy; it requires buying equipment, supplies and sometimes a permit.

### **What is my use of or interest in the river system?**

I spend most every weekend boating in some part of the river system of the Rio Grande. I always boat with someone else, mostly for safety reasons. We wander down the river, occasionally seeing a fisherman or a farmer. We only go ashore to eat lunch or go to the bathroom. We are required to have something with us, such as 'portapotties', to carry away our human waste.

We try not to disturb anyone. We try to stay away from farmers' land and any other private land. Even so, we have had some of the landowners throw rocks at us and even flash guns. It can be scary.

### **How does my use or interest affect the river system?**

I keep informed about proposals that would further change or harm the river system. I work to get laws passed to protect it. Unlike some of the other boaters and users, I want the rivers left wild and scenic. I do not want organized campgrounds, trails or boat ramps.

The United States Bureau of Land Management maintains and protects the river and bosque that run through federal lands. Some of us boaters help the B.L.M. with litter clean-ups along the river. We break up fire pits and get rid of the ashes, half-burnt logs and trash that some thoughtless boaters and other users leave behind.

We also help B.L.M. with studies about how boaters affect waterfowl such as ducks during nesting season. One boater goes through an area while others watch to see if the babies can find their mothers after being disturbed. We have discovered that indeed they often do not get back together! As a result, we have supported the B.L.M.'s recommendation of closing the river during the nesting season. Sure, I have a self-interest, but it helps preserve a healthy river and bosque habitat that support fish and wildlife populations.

### **What are my concerns?**

**I am concerned about the quality of the water** because of all the trash and contaminants getting into the river system. **I am concerned about the quantity of water in the river flow** because of the fluctuations (changes up and down). It is sometimes hard to run a certain stretch of river. Because of dams built for flood control and water storage, we don't have a constant **instream flow**. Instead, the amount of water in the river at any given time is dependent on how much is being used by farmers for irrigation and is being stored for use by the cities down stream. Habitat and wildlife depend on a healthy, clean and constant flow of water. I also worry that landowners will somehow take away our right to use the river for leisure recreation.

## **Role #9 Leisure Recreation**

My name is Rod/Rodell Fisher. I am a teacher of biology in Taos. I spend every spare minute on the weekends fishing on one of the rivers that make up the Rio Grande watershed. **Leisure recreation is important** for mental and physical health. It provides relaxation away from hectic work schedules. My sport also helps the economy because it requires buying equipment, supplies and a license.

### **What is my use of or interest in the river system?**

I really enjoy fly fishing because it's fun, and it works! It makes me a better biology teacher because I learn a lot about the river system. I am always interested in trying to tie a fly that better imitates whatever the fish are eating. I use barbless hooks. I don't keep the fish except when I want a fish dinner or if I want to study the diet of the fish. When I clean them I can find out what insects they have been eating. This lets me know the condition of the river. A healthy river system has all kinds of insects that the fish feed upon.

### **How does my use or interest affect the river system?**

My use has given me a better understanding of and respect for the river ecosystem. I share this knowledge with my students. Not all fishermen and users share this respect and understanding. They don't obey the limits set on the number or size of fish one can keep. They leave their trash in the river and on the river banks. All of this harms the fish populations and habitat.

Sometimes I speak at hearings held by state or federal agencies. In these hearings agencies try to find out how the public feels about certain proposals for the river. In public meetings I can offer some important information about the river ecology that may help maintain and protect the river system.

When a watershed is affected in some way, it shows up in the river below. For example, when a mine above Questa in northern New Mexico was careless with its **tailings (the waste from the mining operation)**, they spilled into the Red River. It then showed up in the **mainstem (main part)** of the Rio Grande. Mine tailings can be very poisonous. Arsenic and heavy metals such as mercury can kill fish and the insects upon which they feed. It then takes a very long time for the river to support life again.

### **What are my concerns?**

**I am very concerned about the quality of the water** because of all of the trash and contaminants getting into the river system. **I am concerned about the quantity of water** in the river flow because of the **fluctuations (changes up and down)**. Because of dams built for flood control and water storage, we don't have a constant **instream flow**. Instead, the amount of water in the river at any given time is dependent on how much is being used by farmers for irrigation and is being stored for use by the cities down stream. Habitat, wildlife and fish depend on a healthy, clean and constant flow of water.

## **Role #10 Leisure Recreation**

My name is Vern/Vera Hickle. I own a motorcycle store in Truth or Consequences. I sell ATVs - All Terrain Vehicles. **Leisure recreation is important** for mental and physical health. It provides relaxation away from hectic work schedules. My sport also helps the economy because it requires buying equipment, supplies and a license.

### **What is my use of or interest in the river system?**

I really love to take my motorbike and go along the river and through the bosque. I enjoy the scenery, and it is challenging biking! Sometimes I get into sandy areas that really test my skills. I like to try to go up the embankments to see if my bike can make it. Most of the time I try to stay on trails within the wooded areas of the bosque. It is really beautiful country.

### **How does my use or interest affect the river system?**

I know that we bikers are accused of tearing up the land. But it doesn't hurt the bottomlands along the river. The water keeps covering and uncovering the area and certainly does far more damage than I do. But I'll admit sometimes I can see whole chunks of earth fall off the river bank that I try to climb on my bike. But high water from the river can certainly erode the banks far faster!!

I have noticed though, where there is lots of vegetation on the embankments, the soil doesn't erode. The tight web of roots seems to hold the soil along the river bank. But I don't destroy the vegetation any more than do all the boaters and other users. The hikers, joggers and picnickers all destroy vegetation walking on the area and climbing around. Some of the joggers are running in the bosque everyday. I'm only in there on the weekends. And a lot of them come along with their trash, their orange peels and other stuff. That makes me mad!

I figure that a lot of us bikers and ATV users enjoy the bosque as much as anybody else. It is public land, and we have a right to use it. The more users we have the more supporters there are to protect the area from clearing, dredging or draining of its waters.

### **What are my concerns?**

**I am very concerned about the quality of the water** because of all the trash and contaminants getting into-the river system. I know other leisure recreationists are concerned about the quantity because of the fluctuations (changes up and down) in river flow. Because of dams built for flood control and water storage, we don't have a constant **instream flow**. What **concerns** me more is **having the bosque closed off for our use**.

I'm afraid the landowners near the river and environmentalists will try to **limit my use of the bosque**. They are a bunch of elitists or chosen few! They just want it for the bird watchers, and as far as I am concerned - that's for the birds!! No way! I am a taxpayer and public lands belong to me as well as it does to them. The river and the bosque are recreation areas for us all.

## **Role #11 Leisure Recreation**

My name is Randy/Randie Schott. I live in Bernalillo. I really enjoy hunting and am a responsible gun owner. I have grown up with guns and have taken safety courses. **Leisure recreation is important** for mental and physical health. It provides relaxation away from hectic work schedules. My sport also helps the economy because it requires buying equipment, supplies and a license.

### **What is my use of and interest in the river system?**

I spend a lot of time in the bosque and around the river hunting ducks, geese and dove in season. These birds are good eating. I don't kill for pleasure. I hunt because my family needs the meat, and food prices are high. I target shoot in the same area when particular birds are not in season. How does my use or interest affect the river system? .

The hunting licenses we buy go to help purchase and maintain good waterfowl habitat. So, I help keep the bird populations healthy! We don't have enough predators left so that flocks of birds could become too large. If ducks and geese were allowed to increase their populations without hunters, their numbers could become a real menace. They would compete for the grain from farms and could be very destructive. We hunters act as a natural part of the system; we have taken the place of other predators.

Most responsible hunters today know we must restrict the number of our kills as well as the season they can be hunted. We have a self-interest in keeping healthy populations of the flocks. As long as birds are game, they will never become endangered nor extinct. I resent people trying to discredit us responsible hunters.

Some landowners and farmers complain about the noise from target shooting and hunting. Occasionally, a stray bullet has killed some livestock. Even I worry about the kids and adults who thoughtlessly kill anything that flies or moves. Some even kill songbirds which is against the law.

### **What are my concerns?**

**I am concerned about having my right to hunt and target shoot in the bosque taken away** because of irresponsible hunters. Landowners near the river, environmentalists, and the law need to go after them and not us responsible hunters.

I am very **concerned about the quality of the water** because of all of the trash and contaminants getting into the river system. I am **concerned about the quantity of water in the river flow** because of the fluctuations (**changes up and down**). Because of dams built for flood control and water storage, we don't have a constant **instream flow**. Instead, the amount of water in the river at any given time is dependent on how much is being used by farmers for irrigation, and is being stored for use by the cities down stream. Habitat and waterfowl depend on a healthy, clean and constant flow of water.

## **Role #12 Commercial Recreation**

My name is Steve/Stephanie Orr. I am the owner and manager of the High River Rafting Company in Pilar in Northern New Mexico. Commercial recreation is important because we bring tourist dollars to the state. We employ people for various jobs such as cooks, tour guides or raft operators. We buy most of our supplies and equipment from local stores. We are good for the local economy.

### **What is my use of or interest in the river system?**

Commercial river rafting attracts people from many places to enjoy the scenery and to experience the thrills of floating down the Rio Grande. Some 50,000 people raft, canoe or kayak on New Mexico's upper Rio Grande each year. Spring is the peak season. Buses transport customers, food and equipment to the river. Each of my company's rafts holds ten people to enjoy the challenge of the rapids. On some of the longer trips, we camp along the river banks and share a hearty meal after a long day on the water.

### **How does my use or interest affect the river system?**

We try to affect the river system as little as possible. The Bureau of Land Management (BLM) protects and maintains some of the federal or public land along the river. BLM has set up areas where we can unload the buses and put our rafts in the river. We camp in areas with established campgrounds or where we have the permission of a landowner to camp next to the river.

We teach people about the river environment as we go downstream. Most appreciate how important it is to take care of the fragile ecosystem. Our customers are told not to throw trash in the river or bosque. We provide 'porta-potties' for their use.

But, I know some boaters are not as careful as we are.

### **What are my concerns?**

**The quality of the water is declining** because of all the trash and contaminants getting into the river system. Return water from farms carries fertilizers and pesticides. Storm run-off near abandoned mines transports dangerous arsenic and even mercury. Ranchers allow their livestock to graze near the rivers. Animal wastes along with all the rest add to the contamination of the river system.

**The quantity of water in the river fluctuates (changes up and down)**. Because of dams built for flood control and water storage, we don't have a constant instream flow. Instead, the amount of water in the river at any given time depends on how much is being used by farmers for irrigation and is being stored for use by the cities down stream.

**I worry about my right to take my customers down the river**. The conflict between rafters and waterfront farmers and ranchers is tense. During recent meetings with local communities, we agreed not to be noisy and to keep our people away from private property without permission. Local residents agreed not to threaten rafters. We shall see.

## **Role #13 Commercial Recreation**

My name is Dick/Dixie Gill. My passion is stream and river fishing. I own a small business in Espanola in Northern New Mexico that keeps me near the water providing recreation for paying customers. **Commercial recreation is important** because we bring tourist dollars to the state. We employ people for various jobs such as cooks, tour guides or raft operators. We buy most of our supplies and equipment from local stores. We are good for the local economy.

### **What is my use or interest in the river system?**

Guiding fishermen is a new type of business here. Our streams and rivers rival those in Idaho and Montana. The best places are inhabited by native fish rather than fish stocked from hatcheries. Native species are hardy and wily. They require great skill to catch. This is why sport fishermen will pay me to guide them to these natives. I take my customers to the best fishing spots, which are found on the upper Rio Grande in New Mexico, its tributaries and just below dams. I provide fly-fishing and camping equipment, food and evening recreation. Most of my tours last three to seven days.

### **How does my use or interest affect the river system?**

My use affects the river because I educate my customers about fish and fish habitat. People who understand and appreciate the value of native species will support efforts to protect them and their habitat. My customers do not keep fish below the legal size, and we follow all fishing regulations. Unfortunately, not all fishermen go by the regulations and they interfere with spawning cycles. All fishermen are required to buy a New Mexico fishing license. These fees help pay for protection of the habitat of native species. I occasionally get complaints from Pueblos and other landowners who live near the river about the trespassing on their land even though I warn my customers about trespassing as well as noise, trash, etc.

### **What are my concerns?**

**The quality of the water is declining** because of all the trash and contaminants getting into the river system. Return water from farms carries fertilizers and pesticides. Storm run-off near abandoned mines transports dangerous elements. Ranchers allow their livestock to graze near the rivers. Animal wastes along with all the rest add to the contamination of the river system.

**The quantity of water fluctuates (changes up and down).** Because of dams built for flood control and water storage, we don't have a constant instream flow. The amount depends on how much is being used by farmers for irrigation and is being stored for use by the cities down stream. Fish and wildlife habitat depend on a healthy, clean and constant flow of water.

I am also concerned about **my right to take my customers along the river.** Some of the local landowners have threatened users such as the rafters, etc. I worry that they may also do the same to the fishermen.

## **Role #14 Environmentalists**

My name is Billie Banks. I live in Los Lunas and do volunteer work for the Riparian Protection Society. Environmentalists are important because they act as 'citizen watchdogs' and work to protect the environment.

### **What is my use of or interest in the river system?**

I work to preserve the riparian areas we have left. Riparian refers to the vegetation and life forms found along the banks of springs, streams, bogs, wet meadows, lakes and ponds. In New Mexico riparian areas with lots of trees are called by their Spanish name - **bosque**. Estimates are that 90% of the U.S. riparian areas have been destroyed; however, there is bosque along about half of the Rio Grande's length through New Mexico. Bosque makes up just 1% of our state's land mass, yet it provides habitat for 60% of our bird populations. It is also important for water quality.

### **How does my use or interest affect the river system?**

I try to educate the public to preserve and care for riparian areas. We must protect the vegetation along river banks. The plants form a web of roots which help hold the soil in place as the river runs by. This prevents erosion of the banks and silting of the water. Silt can kill fish and other aquatic life. The plant community also acts like a sponge. It holds the extra water during peak flow times and releases it back into the river when the flow is lower. Riparian areas are recharge zones for ground water (aquifers' as well as filtering systems for removing contaminants in the water

The Rio Grande cottonwoods and willows are an important part of the bosque vegetation. They provide shade for wildlife as well as delicate seedlings. Drought conditions in the bosque, due to fluctuations in the river flow, have allowed salt cedar and Russian olive trees to become established. Cottonwoods are used much more by birds and other wildlife than are stands of salt cedar.

### **What are my concerns?**

**Riparian areas are endangered** by poor land use practices and the growth of cities and towns. The **quantity of water or fluctuations** in the **river flow threaten New Mexico bosque areas--** the finest examples of cottonwood forests in the Southwest. The cottonwood seedlings sprout easily, but they need lots of water when sprouting. Once established they can get drowned out when covered with water backed up from reservoirs operated by state and federal agencies. The policies need to be reexamined.

**Water quality has declined.** There has been overgrazing by cattle and improper logging on steep slopes. Poor farming and land use practices put too many contaminants into the river system. State and federal agencies don't have enough person-power or money to be as effective as they would like to be. So they need the help of citizen watchdogs. But it is not easy for citizen volunteers to gain the expertise needed; many have full time jobs. As a result, things happen to our river system because we don't have the resources to go after the many problems that need attention. More citizens must work with the state and federal agencies to ensure better protection of the remaining riparian areas.

## **Role #15 Environmentalists**

My name is Connie/Conrad Waterworth. I work for an organization in Las Cruces called **Watershed Ecology Research (WATER)**. We are concerned with our Rio Grande basin, watersheds in the basin and ecosystems supported by these watersheds. **Environmentalists are important** because they act as 'citizen watchdogs' in protecting the environment.

### **What is my use of or interest in the river system?**

I study the Rio Grande watershed. It drains 8% of U.S. territory. A **watershed** is a large region of land. Within the region the runoff **precipitation (rain and melted snow)** becomes streams and rivers and eventually flows into a single body of water. The Rio Grande watershed begins in the San Juan Mountains in Colorado and ends at the Gulf of Mexico.

Watersheds are the sources of both our surface and ground water. In a healthy watershed there is good vegetation growth. This slows down the flowing water during runoff as it moves into stream channels. More water can enter the soil and seep into the underground aquifers. Water can then slowly move into the streams later in the season allowing for a more constant **instream flow**. Floods are reduced, erosion is lessened and fewer dams are needed. When we protect our watersheds, we protect our water quality.

How does my use or interest affect the river system?

I study and monitor the high mountain regions where the snow collects because this is where the river system begins. I report my findings to agencies, environmental groups, the press.

This vast watershed really demonstrates that whatever we do to one part of the watershed affects another downstream. For example, in logging operations roads are built and timber companies clear **cut (take out whole stands of trees)**. Top soil left bare erodes down the mountain side in the run-off from snowmelt or thunderstorms. This soil becomes sediment or silt in the streams, which can harm aquatic life. Little vegetation is left on the mountain slopes to soak up the moisture for use by the plant community. If the plants die, the animals dependent upon those plants will also suffer.

### **What are my concerns?**

**The quantity of water or fluctuations** in the river flow threaten New Mexico bosque which is important to water resources. **Water quality** has decreased. There has been overgrazing by cattle and improper logging on steep slopes. Poor farming and land use practices put too many contaminants into the river system. State and federal agencies don't have enough person-power or money to be as effective as they would like to be. So they need the help of citizen watchdogs. It is not easy for citizen volunteers to gain the expertise needed; many have full time jobs. Things happen to our river system because we don't have the resources to go after the many problems that need attention. More citizens must work for better protection of our water resources!!

## **Role # 17 Environmentalists**

My name is Robyn Byrd. I live in Socorro and am an enthusiastic bird watcher. I worry about birds and their habitat. **Environmentalists are important** because we act as 'citizen watchdogs' and work to protect the environment.

### **What is my use of or interest in the river system?**

Riparian habitat is necessary for water quality and the survival of birds such as waterfowl. Bosque makes up just 1% of our state's land mass and provides habitat for 60% of our bird populations. The bosque is crucial for the survival of endangered bird species. I give volunteer help to the state and federal agencies with the responsibility for protecting wildlife and habitat. There are two state wildlife refuges (protected areas) at Bernardo and La Joya operated by the New Mexico Game and Fish Department. Two national wildlife refuges are Sevilleta and the Bosque del Apache managed by the U.S. Fish and Wildlife Service. All are south of Belen.

### **How does my use or interest affect the river system?**

As a volunteer I help count the number of birds of a particular species in the refuges. I also take part in projects that track the birds' patterns of migration and the places they nest. I share the information I learn with teachers and students.

In the late 1980'S a total of 277 species of birds were counted in the bosque along the Rio Grande. This represents over 60% of the birds known to occur in New Mexico. At least 200 endangered peregrine falcons migrate through N.M. each year. Many use the Rio Grande as their primary route. N.M. supports the largest reproducing wild population of peregrine falcons in the southwestern U.S. Many birds breed and rear their young in the mountainous areas of the Rio Grande Watershed.

In the 1960'S the bald eagle, our national symbol, numbered fewer than 400 nesting pairs in the lower 48 states. The harmful pesticide DDT was banned. New laws were strictly enforced to protect eagles and habitat. As of 1991 the number has risen to over 3,000 nesting pairs in the lower 48 states, and over 100 bald eagles winter in N.M. They tend to concentrate around reservoirs and river areas with good instream flow (a constant river flow) where fish populations or migratory waterfowl provide food.

### **What are my concerns?**

**Riparian areas are endangered** by growth of towns and cities and poor land-use practices. The **quantity of water or fluctuations** in the river flow threaten habitat necessary for bird populations. **Water quality has declined**. There have been overgrazing by cattle and improper logging on steep slopes. Poor farming and land use practices put too many contaminants into the river system. State and federal agencies don't have enough person-power or money to be as effective as they would like to be. So they need the help of citizen watchdogs. Things happen to our river system because we don't have the resources to go after the many problems that need attention. More citizens must work for better protection of our riparian areas and bosque! Too many boaters, hunters, and ATV (All Terrain Vehicles) scare the fish and wildlife.

## **Role #18 Business and Industry**

My name is Andrew/Andrea Packworth. I am the manager of ABC Meat Packing Company, a slaughterhouse and feedlot located near the Rio Grande in the South Valley near Albuquerque. We make products such as luncheon meats and hot dogs, which we ship all over the United States. **Business and Industry are important** because we employ people and supply products we use. We bring money into the state by selling our products and services. We also pay taxes that fund schools, highways, and government programs.

### **What is my use of or interest in the river system?**

A large portion of our ABC Meat Packing Company plant is a feedlot. This is where the animals stay until slaughter. Sometimes we have as many as 1200 cows there. Each cow generates almost 60 pounds of urine and manure a day. Workmen bulldoze the waste into large piles. Some of it is sold as fertilizer for farms and gardens.

We slaughter and process 100-200 cows a day which produces a lot of messy waste. We use the river system to try to get rid of the waste. After the meat is taken, the rest is baked and mixed with water and spread over almost 40 acres of nearby land. Once it dries, we also sell it to farmers along the Rio Grande to use as fertilizer.

Disposal of the blood is a harder problem. The only way to remove it is to hose down the floor. We used to pump the liquid to a "blood pit" where the waste settled before we let the water return to the river. We've abandoned the "blood pit". Now we truck about 30,000 gallons of waste water daily to a lined pit six miles away from the river.

### **How does my use or interest affect the river system?**

Some people claim our wastes cause too much contamination of the river by accidental run-off during rainstorms. They say that the animal waste and waste water also leaks into the groundwater. We try to avoid this, but we have a problem with containing so much waste. The New Mexico Environment Department tests the site every three months and gives us a permit to discharge some waste water into the river system. They believe that this amount will not seriously contaminate the river environment.

### **What are my concerns?**

Our use of the river system is controlled or regulated by the government. We feel we have done a good job in keeping wastes from entering the river system. Most of the contamination comes from unregulated sources such as trash dumping in the arroyos, storm runoff from our streets and highways or from septic tanks.

Environmentalists, some state and federal agencies and some Pueblos want even stricter laws regulating waste disposal by business and industry. **Business and industry are concerned that we will have too many rules and regulations** about our use of the river system. If we have too many restrictions, we would not be able to stay in business.

## **Role #19 Business and Industry**

My name is Dave/Diana Minor. I am a manager of the Moldy Den Mine located on one of the tributaries of the Rio Grande near Questa. We mine a certain metal which is an important material used in industry. **Business and Industry are important** because we employ people and supply products we all use. We bring money into the state by selling our products and services. We also pay taxes that fund schools, highways, and government programs.

### **What is my use of or interest in the river system?**

When we opened the mine we built a number of settling ponds. We located the ponds along a tributary of the Rio Grande. When the mine is operating we pump waste water from the mine into the ponds. Elements such as arsenic and mercury, used during the mining operation, are settled to the bottom. After a few days, we discharge the water into the river tributary, which runs, of course, into the Rio Grande.

### **How does my use affect the river system?**

It is not easy to know how our use affects the river. Some environmentalists claim our discharges into the river are very poisonous. They claim it has become difficult for fish to live there. Thirty years ago a federal study showed the water to be of excellent quality. Ten years ago the Environmental Protection Agency said water quality had declined. Researchers checked only a small number of water samples for a few contaminants.

We have done our own water sampling and cannot see where the mine is a problem. Some elements, which may be harmful to fish, occur naturally in the soil.

Perhaps this is the source of contamination. Another source might be old, abandoned gold and silver mines. Old mines are a problem in other parts of the state. Mercury used to separate gold from rock still washes into the rivers during rainstorms.

### **What are my concerns?**

Our use of the river system is controlled or regulated by the government. We feel we have done a good job in keeping wastes from entering the river system. Most of the contamination comes from unregulated sources such as trash dumping in the arroyos, storm run-off from our streets and highways, or from septic tanks.

Environmentalists, some state and federal agencies and some Pueblos want even stricter laws regulating waste disposal by business and industry. **Business and industry are concerned that we will have too many rules and regulations** about our use of the river system. If we have too many restrictions, we would have to move to another country or shut down and put local people out of work.

## **Role #20 Business and Industry**

My name is Leonard/Lena Petro. I work for the American Oil Company near Grants. A part of our worldwide holdings are seventy-eight oil wells near the Rio Puerco, a tributary of the Rio Grande. **Business and Industry are important** because we employ people and supply products we all use. We bring money into the state by selling our products and services. We also pay taxes that fund schools, highways, and government programs.

### **What is my use of or interest in the river system?**

Our wells pump a mixture of oil and water from deep underground. One small well produces only ten barrels of oil and 230 barrels of water a day. We put the liquid in large tanks or skimming ponds. When the oil separates from the water, we remove the oil. Then we discharge the waste water into an arroyo near the Rio Puerco which is dry most of the year. Here it sinks back into the ground or evaporates.

### **How does my use or interest affect the river system?**

Our studies show that after the oil is removed, the waste water is suitable for wildlife and cattle to drink. Some government agencies and local residents do not agree. They claim that the water contains chemicals that are harmful to humans and some wildlife. They also say that the water has caused a build-up of oil-contaminated soil in the arroyo. During heavy rainstorms, the soil and contaminants are washed from the arroyo into the Rio Puerco and then into the Rio Grande.

Some neighbors have complained that the waste water smells like rotten eggs. Others say their sheep have become mysteriously ill after drinking the waste water. The Environmental Protection Agency ordered us to stop discharging the waste water and to come up with a plan to remove more of the contaminants. We are working on this.

What are my concerns?

Our use of the river system is controlled or regulated by the government. We feel we have done a good job in reducing wastes. Most of the contamination in the Rio Grande system comes from other sources such as trash dumped in the arroyos, storm run-off from our streets and highways or septic tanks. This is what we need to control! Environmentalists, some state and federal agencies and some Pueblos want even stricter laws regulating waste disposal. **Business and industry are concerned that we will have too many rules and regulations** about our use of the river system. If we have too many restrictions, we won't be able to stay in business.

## **Role #21 Business and Industry**

My name is Glen/Glenna Mills. I own the Kingston Lumber Mill near Jemez. My mill provides lumber for the building industry. People need this lumber to build their homes and places of business. **Business and Industry are important** because we employ people and supply products we all use. We bring money into the state by selling our products and services. We also pay taxes that fund schools, highways, and government programs. ;

### **What is my use of or interest in the river system?**

We have a contract with the U.S. Forest Service to harvest (log) timber from the National Forests. The forests are in the mountains where the melting snow and rainfall create run-off. This run-off goes into streams and rivers that flow into the Rio Grande. The national forests are an important part of the watersheds of the river system.

### **How does my use or interest affect the river system?**

When we log in the mountains it has some effect on the river system. In logging operations roads are built to get to the trees. The run-off picks up some of the disturbed soil. There is no way around this because the roads are necessary to get in for cutting and hauling out the timber. We minimize the silt and sediment going into the water system by not building roads near streams or rivers.

We do selective cutting in ponderosa pine forests, which means we only take the more mature trees. We leave the others of different ages in place. This provides the necessary ground cover that allows more water to enter the soil. Less soil is exposed to erode into the streams. We do clear cutting higher up in the mountains in spruce and fir forests where the trees tend to be of the same age. We are required by law to reforest within a short period of time. It is important to remember the good things about logging. Once an area is logged more sunlight encourages the growth of grasses and other vegetation. This creates habitat for elk, deer and other wildlife that need open areas for grazing.

### **What are my concerns?**

Environmentalists and some government agencies give loggers and lumber mills a bad time. They go to court to prevent our logging in areas where they claim there are endangered species. We had to stop logging in one part because of the Jemez salamander and another because of the Mexican spotted owl.

**Stricter laws will make it hard to do business here.** In that case we would have to move to another state or close down. Whole operations have been shut down. That means unemployment and not enough lumber for the building trades.

## **Role #22 Cities, Towns and Villages**

My name is Paul/Paula Metropolis. I advise the City of Albuquerque on water issues. **Cities, Towns, and Villages are important** because they provide many services for people and businesses.

### **What is my use of or interest in the river system?**

The city of Albuquerque provides water for over 125,000 homes and businesses. These people use a large amount of water each day. We get the water from wells close to the river and other wells farther away. The ground beneath the city is mostly sand and gravel. When water is pumped from these wells, water from the Rio Grande sinks into the ground to replace much of the water that we pump. This lowers the flow of the river.

We also use the river to dispose of the treated waste water from all those people. We drain away some 60 million gallons a day. The drainage canal from our waste water treatment plant to the Rio Grande is the fifth largest tributary of the river in New Mexico! Think about the water that your family uses each day. If you are connected to a sewer system, all of that water from your bathrooms and kitchens that goes down the drain ends up in a waste water treatment plant.

### **How does my use affect the river system?**

Albuquerque affects the river system in several ways. First, we are a large user of water. We have bought water rights from other areas of the river system. We store this water in large reservoirs. As we use the water from our wells, we release some of the water that we have stored back into the river system.

Second, we discharge our treated waste water into the river. We are very closely monitored (watched over) by government agencies which make sure that the water that comes from our treatment plant meets high standards of water quality. We believe that the treated water will not be harmful to the river system.

The third effect is difficult to control. During heavy rains the run-off clears our streets of carelessly thrown garbage and cigarettes as well as contaminants from people's gardens and automobiles. The contaminated water flows into our storm drains and into the river untreated. Some of these contaminants are very harmful to the river system.

### **What are my concerns?**

**Cities, towns and villages are concerned about having enough good quality water.** One out of every three New Mexicans lives in the Albuquerque area. Our city is growing. In the future we will have to buy more water rights. This might have to be from the food growers. **Some** Indian Pueblos, Environmentalists, and State and Federal Agencies **say that we need to purify our waste water even more than we do now. This would cost millions of dollars.** Most of the contaminants in the river system are from sources that are not regulated the way our treatment plant is. This is what we need to control!

## **Role #23 Cities, Towns and Villages**

My name is Ron/Rhonda del Norte, and I work for the Utilities Department of the Town of Española. **Cities, Towns, and Villages are important** because they provide many services to people and businesses.

### **What is my use of or interest in the river system?**

Española, from the Rio Grande. In the future, we might have to start using surface water from the river. We have already bought water rights, and we store water in reservoirs on tributaries of the Rio Grande upstream from Española is allowed to flow downstream to replace the water that we are taking out of the ground.

We also use the river to dispose of the water from our waste water treatment facility. We discharge almost one million gallons of treated water a day into the Rio Grande.

### **How does my use or interest affect the river system?**

Española affects the river system in several ways. First, the water that we use indirectly lowers the amount of in-stream flow of the Rio Grande. Although this amount is small compared to users such as Food Growers, it does have an effect on the river system.

Second, we affect the river system with the waste water that we discharge from our treatment plant. We are very closely monitored (watched over) by the New Mexico Environment Department. The ED makes sure that the water coming from the treatment plant meets the required water quality standards.

Third, we affect the river system by our town's location along the river. During rainstorms, some contaminants are washed from our streets and yards into the river. Sometimes people are not careful about where they dump their trash or how they use pesticides and other hazardous materials.

### **What are my concerns?**

**Cities, Towns and Villages are concerned about having enough good quality water.** The population of Española is growing. In the future we might have to buy more water rights, perhaps from the Food Growers. In the past several years we have had to abandon six of our wells because they were polluted. The water had hydrocarbons from gasoline tanks that had leaked) and nitrates from septic systems, livestock, or over-use of fertilizers). We need to be very careful that we don't pollute any more of our water supplies.

Some Indian Pueblos, State and Federal Agencies, and Environmentalists say that we need to purify our waste water even more. **Any further purification would cost Española a great deal of money. We can't afford it!**

## **Role #24 Cities, Towns and Villages**

My name is Ramon/Ramona del Campo, and I live in the village of Pojoaque in northern New Mexico. Cities, Towns, and Villages are important because they provide many services to people and businesses. However, even though thousands of people live in the Pojoaque Valley, many homes have their own wells and septic systems. We are an example of how a group of people living in an area can affect the quantity and quality of water.

### **What is my use of or interest in the river system?**

Part of our valley is irrigated by water from the Rio Pojoaque, a tributary of the Rio Grande. The water is used to irrigate pasture land, small orchards, and vegetable gardens. During the irrigation season there is little water left in the river when it joins the Rio Grande. Most of it has been taken from the river by the acequia system. Many of us have our own wells to supply water for our houses. Water from the river sinks into the ground to replace some of the water that is being taken out.

### **How does my use or interest affect the river system?**

I honestly never thought that my use of the river system affected anything at all. In the past few years, however, I have learned from the newspapers that there are several ways that all of us together affect the river system. First, our summer irrigation system uses much of the surface water that would otherwise flow from the Sangre de Cristo Mountains into the Rio Grande. We also take water from the ground. This lowers the amount of water in the river system.

Second, our community affects the water quality of the Rio Pojoaque and the ground water of our valley. Contaminants find their way into the Rio Grande. Some of the sources of the contaminants are from septic systems in some houses, improper use of pesticides and fertilizers in our gardens, and wastes from livestock.

Third, some people dump their trash and change their car oil in the arroyos. Others put tree branches and building materials there. During flash floods, all of this is washed into the Rio Grande affecting water quality for all those living downstream.

### **What are my concerns?**

**Cities, Towns, and Villages are concerned about having enough good quality water.** My family and garden need clean water to live and grow. I want to be able to continue to use the water from the acequia. I also want to have clean drinking water from my well. If the ground water is contaminated, I won't be able to use my well.

**Some State Agencies and Environmentalists say that we need to have more regulations concerning use of septic tanks.** They say that in New Mexico there are over 160,000 household septic tanks that are leaking around 32 million gallons of waste water per day. Some of this is contaminating our ground and surface water. **Correcting this problem will cost a great deal of money. We can't afford it!**

## **Role #25 State and Federal Agencies**

My name is Roberto/Roberta Rivera. I work for the New Mexico Environment Department in Santa Fe. I do water quality monitoring (**overseeing**). **State and Federal Agencies are important** because we are guardians of the river system. We work in the interest of everyone (the public). We have to balance quantity and quality of the water in the river system against the special interests of the users.

### **What is my use of or interest in the river system?**

As a member of the Environment Department I don't actually use the river as such. But I do have an interest in how other people use it. The ED guards and protects our state's water quality.

All of our lives depend on clean water. I am concerned with the quality of both groundwater and surface water. **Surface water** exists above the ground in lakes, streams and rivers. **Ground water** is rain or melted snow that has sunk below the surface and lies underground. It is made available for use through wells. Around 88% of the people in New Mexico rely on ground water for their drinking water.

### **How does my use or interest affect the river system?**

Standards have been set for water quality. These standards, based on scientific studies, are like 'measuring sticks'. They tell us how much waste can be present in a water system without endangering it. Some **contaminants** are permitted without doing long-term harm. Beyond a certain point, however, the water source can become polluted. **Pollutants** are contaminants in amounts that may cause harm or death to humans, animals, or plants.

Ground water wells, once polluted, cannot be easily purified or cleaned. Surface waters can purify or cleanse themselves but only to a certain point. Beyond that point the water system can no longer adequately support life. We have known rivers and lakes to 'die.' My job helps to prevent this from happening. To insure that we have good water now and in the future, we do water quality testing. If there are violations of standards, we try to find the source or cause. If we can locate the source, we take actions to stop the violations. Quality is actually improving in some areas due to better control.

### **What are my concerns?**

**Water quality in New Mexico is threatened** because it is hard to find all the sources of contamination. Over 160,000 household septic tanks are leaking around 32 million gallons of waste water per day. It is seeping below the surface of the ground. It can then sink into underlying aquifers. More than half of the state's rivers are affected by livestock grazing. Contaminants are threatening our drinking water! **We must all be guardians of the river system.** This means that we must use the river system wisely so that it has the **ability to sustain** or support life not only for users now but for future generations. This is called **sustainability** (su stain' a bil' i ty).

## **Role #26 State and Federal Agencies**

My name is Stephanie/Steve Agua. I work in Santa Fe in the New Mexico State Engineer Office. **State and Federal Agencies are important** because we are guardians of the river system. We work in the interest of everyone (the public). We have to balance quantity and quality of the water in the system against the special interests of the users.

### **What is my use of or interest in the river system?**

The State Engineer Office works on behalf of the people of New Mexico to determine how much ground and surface water there is. I have to try to balance New Mexico's water supply with the people's use of it and their demand for it. In New Mexico you cannot own water, but you can own a water right. By law and treaty the water has to be delivered to the people with water rights. Lots of people up and down the Rio Grande own rights to use a certain amount of water, and this includes people from Colorado to Mexico. I have to make sure that enough water from the Rio reaches Texas and Mexico even in dry years.

### **How does my use or interest affect the river system?**

I work to protect our water resources from over-use and misuse. First, **I am an overseer of the water supply**. I measure how much water there is. I do this by measuring river flow. I estimate the amount that has been withdrawn from the river system. We also measure how much ground water has been withdrawn from the **aquifers (natural underground water storage areas)**. We have to know if those aquifers are being **recharged**. This means that stream water or rainfall is naturally filtering into these aquifers filling them back up.

Second, **I am the one who approves water rights**. I make sure those who have a legal right to use the water get the water. People come to me to get the right to drill water wells for personal use or to approve the sale of water rights. Sometimes I determine ownership of water rights. Third, **I supervise how the water is used**. I must make sure that it goes for **beneficial use**. Legal agreements guarantee a certain amount of water to users in Texas and Mexico! As a result, dams have been built for both flood control and water storage. Elephant Butte stores water to make sure there is enough for downstream users.

### **What are my concerns?**

**Water quantity in New Mexico is going to be a problem** in the future because more people and industries are coming into New Mexico. This means a need for more water. We already have all the water coming down the Rio Grande system spoken for in terms of water rights. And I fear that we will continue to withdraw more water from our ground water sources than can be recharged. Once the aquifers are depleted, that's it! No more ground water from that source! We have to conserve and not waste water. We **must all be guardians of the river system**. This means that we must use the river system wisely so that it has the **ability to sustain** or support life not only for users now but for future generations. This is called **sustainability** (su stain' a bil' i ty).

## **Role #27 State and Federal Agencies**

My name is Edgar/Edna Coreman. I work for the U. S. Corps of Engineers in Albuquerque and am concerned with flood control. **State and Federal Agencies are important** because we are guardians of the river system. We work in the interest of everyone (the public). We have to balance quantity and quality of the water in the river system against the special interests of the users.

### **What is my use of or interest in the river system?**

I don't exactly use the river system, but I help the people who do by controlling flood water and sedimentation in the Rio Grande system. My interest is in building dams! There is **runoff** from snowmelt in the spring and thunderstorms in the summer. This runoff goes into the **mainstem** or main part of the Rio Grande causing flooding. The floods carry tons of sediment (**soil and sand**) that run into the Rio Grande from eroded banks of the smaller rivers and streams.

### **How does my use or interest affect the river system?**

The USCE has a responsibility for building dams to prevent flooding and to store water for later use when it is drier. This helps the State Engineer provide the water for Texas and Mexico that he is required to deliver. Lots of water enters the mainstem of the Rio Grande from streams and smaller rivers. In the past the water came too fast causing flooding and damage to farms, towns, and homes along the river system. These dams catch and store the spring and summer runoff and gently release it downstream.

The larger **Abiquiu Dam** (A'buh kue), located on the Chama River, controls flooding downstream as it flows into the Rio Grande north of Española. The **Jemez Dam** catches flood waters from the Jemez River before it runs into the Rio Grande north of Bernalillo. The **Galisteo Dam** controls summer flooding from Galisteo Creek. It carries runoff from the Ortiz Mountains near Cerrillos and enters the Rio Grande close to Santo Domingo Pueblo. **Cochiti Dam** is one of the eleven largest earthen dams in the world. **Elephant Butte Dam**, operated by the Bureau of Reclamation, stores water for downstream users. Both Cochiti and Elephant Butte were built on the Rio Grande itself for flood control, water storage, and recreational use. The water flowing down from the north and released from the dams along the way end up behind these two dams!

### **What are my concerns?**

#### **People need to realize that what they throw into the river lessens the quality of the water.**

Trash from streets and arroyos is carried by runoff down to the Rio Grande and ends up in the Cochiti and Elephant Butte Reservoirs. In September 1991 medical waste such as needles and syringes were found along the shoreline of Cochiti. That's what we can see. There are other contaminants we can't see! **We must all be guardians of the river system.** This means that we must use the river system wisely so that it has the **ability to sustain** or support life not only for users now but for future generations. This is called **sustainability** (su stain' a bil' i ty).

## **Role #28 State and Federal Agencies**

My name is William/Willa Wilder. I work for the United States Fish and Wildlife Service at **Bosque del Apache, "the woods of the Apache"** near Socorro. I am a wildlife and habitat specialist on endangered species. **State and Federal Agencies** are important because we are guardians of the river system. We work in the interest of everyone (the public). We have to balance quantity and quality of the water in the river system against the special interests of the users.

### **What is my use of or interest in the river system?**

My agency has the responsibility for protecting the nation's fish and wildlife as well as their habitat. The Endangered Species Act requires us to identify plants and animals that are in trouble and protect them from becoming extinct. Each species plays an important role in its ecosystem. When we thoughtlessly destroy species today, we may have lost answers to problems we won't identify until tomorrow. 'Extinction is forever.' It is believed that riparian systems are perhaps the most important of all ecosystems to fish and wildlife. Here in New Mexico this is especially true. The habitats of several endangered bird species are riparian areas such as the bosque in New Mexico.

### **How does my use or interest affect the river?**

My job is to save species. This means we have to make sure they have protected habitat that can support them. Habitat destruction is the greatest threat to wildlife. We have some real success stories. One is the whooping crane, one of the world's largest birds.

Because of habitat loss in their Canadian nesting grounds, there were only 20 whooping cranes left in the entire world in the 1940s. In May 1975 our agency began an experiment to establish another population or flock. We placed whooper eggs in sandhill cranes' nests. Four of the young whoopers were hatched by sandhills in Idaho. They flew with their foster parents to the Bosque del Apache National Wildlife Refuge and wintered there. They were the first whoopers in New Mexico since the last sightings were reported in the 1850's. This experimental population or flock now numbers about 30 birds. It has been wintering mostly in the Rio Grande valley. The total whooping crane population is now over 200. They are, however, not yet out of danger.

### **What are my concerns?**

**Not enough people are concerned about saving our riparian areas and our endangered species.** The increasing number of endangered species are warning us that something is going wrong in the ecosystems on which we all depend. Canaries were once used in coal mines as a warning signal of bad air. If the canaries died it was time to get out! Degraded riparian ecosystems, much like canaries and endangered species, also serve as early warning signals of declining environmental quality. **We must all be guardians of the river system.** This means that we must use the river system wisely so that it has the **ability to sustain** or support life not only for users now but for future generations. This is called **sustainability** (sustain' a bil' i ty).

# Understanding Other Interest Groups

Group	Importance	Uses or Interests	Effects	Concerns
The Pueblos				
Food Growers				
Leisure Recreation				
Commercial Recreation				

## Handout 6

### Understanding Other Interest Groups

Group	Importance	Uses or Interests	Effects	Concerns
Environ- mentalists				
Business & Industry				
Cities, Towns, and Villages				
State and Federal Agencies				

## Understanding Other Interest Groups

Group	Importance	Uses or Interests	Effects	Concerns
<b>The Pueblos</b>	Oldest users of the river system. (Prior Claim or Appropriation.) Power as states to issue water quality standards and discharge permits.	Use the river for small farm irrigation. Use the river and bosque for religious ceremonies.	Few negative effects. Add some contaminants to the river. Interested in working to clean the water and environment.	Future of traditional culture. Worried about conflicting interests of municipalities, industry and recreation.
<b>Food Growers</b>	Provide food and employment. Good for the economy.	Greatest users of water on the river system in New Mexico. (80% of the total.)	Lower the quantity of water in the river. Add contaminants to surface and ground water. Extend riparian habitat.	Needs lots of good quality water in growing season. Worried about conflicting interests of municipalities, industry, recreation and environmentalists.
<b>Leisure Recreation</b>	Provide relaxation for mental and physical health.	Use river and bosque for fun and relaxation.	Some trash bosque and river, damage plants and trees, and interfere with wildlife.	Want constant in-stream flow of water, healthy environment. Worried about conflicting interests of industry, food growers, Pueblos, and environmentalists.
<b>Commercial Recreation</b>	Employ people. Bring tourist dollars into the local and state economy.	Use river for recreational businesses.	Fees help protect habitat. Create privacy problems for Pueblos and small farmers. Some contaminants added to river system.	Need constant in-stream flow of water, and healthy environment. Worried about conflicting interests of food growers, Pueblos, and environmentalists.

## Understanding Other Interest Groups

Group	Importance	Uses or Interests	Effects	Concerns
<b>Environmentalists</b>	Citizen 'watchdogs' to protect the environment.	Interested in water quality and a healthy environment.	Act as 'watchdog' over river system users.	Want to see that existing laws are enforced and strengthened. Worried about conflicting interests of municipalities, industry, food growers, and recreation.
<b>Business &amp; Industry</b>	Employ people. Bring dollars into the local and state economy. Pay taxes.	Use of river system as means of disposal of waste.	Add contaminants to the river system.	Needs ways to dispose of waste. Worried about conflicting interests of pueblos, environmentalists, and gov' t agencies.
<b>Cities, Towns, and Villages</b>	Provide services for people and businesses.	Supply water to residences and businesses. Use river for wastewater disposal.	Return relatively clean wastewater to the rivers system. Big problem with septic tanks and non-point sources of contaminants.	Need lots of clean water. Need to return wastewater to the river system. Worried about conflicting interests of Pueblos, food growers, gov' t agencies, and environmentalists
<b>State and Federal Agencies</b>	Guardians of the river system in the interest of everyone (the public). Balance quantity and quality of water against special interests of users.	Interested in quality and quantity of water. Want a healthy river system. Guardian activities.	Improve the condition of the river system and regulate water use.	All river uses and users. Sustainability. Need to develop awareness of the problems and to find solutions.

## HANDOUT #7

### What is the Common Good?

When we talked about self-interests and interest groups, we learned that individuals have a lot more freedom as long as they obey the laws and do not harm others. Sometimes, however, we have to look beyond our self-interests or our interest groups.

We have many important responsibilities to our community as well as each other. If our actions hurt others or make it hard for others to follow their self-interests, we have to compromise. Some people's wishes or needs may not be met to the extent they may like. But theirs along with everyone else's are met to some extent. This is especially true when we all share something in common such as a water source. There is not enough water for everyone to have as much as they want. Furthermore, if the actions from our self-interests lead to contamination of the water source, then we might have to change the way we do things. This is for the **Common Good**.

The **Common Good** means that which is in the interest or well-being of the whole community. Everyone enjoys some good that is common to all of the citizens. The common good will provide a better quality of life for everyone rather than just a few. For example, everyone in a community benefits from having safe streets, good schools, and a clean environment. The common good also requires that we consider how our actions will affect the future.

If what we do today will lessen the quality of our future lives, then we have to consider the common good to be more important than our self-interests. The idea of thinking about how our actions will affect our future well-being is part of **sustainability**. For example, if we cut down our forests, lumber will be cheap today. However, in the future, not only will the prices for lumber be much higher, we will also have an unhealthy river system because of the effects on the watershed.

It is important that each of us becomes involved in our community. This will help to ensure that our community will be a good place to live for our families and neighbors. Some of us might volunteer to help others or to clean up our community. Others might want to get involved with helping to make decisions or to work for a government agency.

The common good is one reason why we have government. Government acts in the interest of the entire community.

