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CREATING EFFECTIVE SOURCE WATER PROTECTION THROUGH REGIONAL COLLABORATION

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Thank you and good morning!

I understand it's not the jet that has slowed (Secretary of the Environment) Ron Curry down; he decided to fly his hot air balloon down here and it took him a little bit longer than he expected. The winds weren't blowing in the right direction.

I would just like to say that the dinner last night was fantastic. Thanks to NMSU for providing us not only great entertainment but an excellent dinner.

I know what you're all thinking: 'Oh, no, another economist.' Karl said something yesterday about economists, that Dr. Lowell Catlett was given all the personality for all economists. That really hurt, but it's true. So I won't try to compete with him this morning. I'm doing the best I can here, however. Dr. Catlett also said something interesting. I am 33 years old, so I was a little confused by his talk yesterday because I

don't know if I need to watch less TV and play more video games, or leave 30 minutes early to get my Starbucks coffee... That's it, that's as good as I can do for humor.

For those who are not familiar with our organization, The New Mexico Rural Water Association is a statewide non-profit membership association. Our members are water systems, professional individuals, and associate members such as industry representatives, manufacturing firms, and engineering firms that design drinking water infrastructure and wastewater treatment. I'm pleased to say we have over 500 members this year. We are part of the National Rural Water Association. There is a rural water association in every state. Our staff is dedicated to providing technical assistance and training on water systems, trying to help them comply with the Safe

Drinking Water Act. We do technical assistance for wastewater systems as well. Our Association does quite a bit of outreach and education for tribal water systems also. You mentioned the title of the talk, 'The Looming Crisis,' and I did want to say a little bit about that. I don't like fear-based statements that inspire panic or get people worried, but I honestly think groundwater quality degradation is a looming crisis, I think that title is accurate. In New Mexico we have been lucky, and now is a moment of opportunity that we can act upon to avert further groundwater contamination and surface water contamination. But it's with us now, it's everywhere in the United States, and that is going to be the focus of my talk.

I have a very singular point that I want to make. I am going to try to go through the PowerPoint presentation fairly

quickly and hopefully we can have some discussion and feedback. There are a lot of people in the audience who are a great deal smarter than I am. I am really here

In New Mexico, well over 100 communities have developed wellhead or source-water protection plans.

today to enlist your support.

I am very briefly going to go over source-water protection planning, which some of you may know as well-head protection planning. Most people are probably familiar with this concept. If you're not, I'm just going to give you a quick background. The United States Environmental Protection Agency (EPA) has offered a program since the early 1990s for communities to develop wellhead protection plans as a voluntary effort.

In New Mexico, well over 100 communities have developed wellhead or source-water protection plans. I think the New Mexico Environment Department (NMED) has documented somewhere around 130. Folks have been doing this for some time, and they are a volunteer effort. Our association assists folks in doing these plans. Our philosophy in this is to utilize the local expertise and local knowledge of the community in developing the plan. People who have lived there for a long time know where their contaminant sources are, they know what their issues are, what their problems are, and it pays dividends to tap into that local knowledge.

In New Mexico, the implementation of these plans is primarily educational. We try to educate consumers

of the water systems, all stakeholders, everyone in the community. The management methods that exist are limiting. Briefly, I will go over the process that we use to develop a source-water protection plan. It is the same process that the EPA promotes, with some slight differences, but for all intents and purposes, it is the same five steps.

The first step is to form a planning team. We get stakeholders together, including water system representatives, operators, any managers and professional staff, board members, but also you can have members of the community and other interested stakeholders, such as ranchers and farmers. If there are any major polluters, point-source polluters, it pays dividends to have them be involved too. Most of the time everybody is very positive about source-water protection efforts. I never have personally run into anyone who has said, "That's just a bad idea, we don't want to protect our groundwater or our source water." Everybody thinks it is important and polluters want to be viewed as trying to help the situation, trying to mitigate contaminants.

So after we develop the planning team, the second step is to delineate the source water protection area. The hydrologists or geohydrologists here would be able to run models that would basically capture the recharge area for the wells far more accurately than the very simple, unscientific delineation we use. Given the situation we have in New Mexico, we are just trying to develop some management methods for wellhead protection. What we do is usually put a 1,000 feet radius or 2,000 feet radius or 1,200 feet radius around a groundwater source. For example, Red River's wells are influenced by the river, so this is not a particularly good delineation. Certainly if they were pulling directly out of the river the area you would want to protect would be much larger, certainly upstream from the wells, something like that. Again, given the limited hydrologic information that is available for rural communities in New Mexico, we have to start somewhere with these plans.

The third step would be to go out and inventory all potential and actual sources of contamination. We use a differential GPS unit for identifying wells. We often find abandoned, hand-dug wells in New Mexico that are pretty exciting. You could throw a cow down some of them. It is historic certainly, but it is a direct route to contamination of the shallow aquifer. It is also an extreme hazard. Many are not very well covered - a child could come by and fall into them. Pretty much all

the shallow groundwater in the Mora area, for example, is contaminated; it is unusable as are most parts of the state that have septic systems. There are, of course, abandoned wells of more conventionally drilled wells all over the state. When I say abandoned, I really mean they are not used and have not been shut down correctly. They are direct routes to contamination. We also inventory contamination sources, point sources of contamination. We find open pipes flowing directly into a river and personal wastewater treatment systems that were probably installed sometime between midnight and 6 am. This situation exists perhaps more than you might imagine it does; if you go out and look for it, you'd be surprised. Non-point source pollution is a primary concern for a lot of systems such as agricultural runoff, grazing, and things like that.

Then the fourth step is to develop a management plan. As I mentioned, most of it is educational at this point. We've started providing communities with well-head protection signs and highway grade signs out of our existing budget. You might have seen them, perhaps not, but I think if you do look you will see them around the state. There are quite a few - over 300 signs around the state. They are educating the community and consumers that they are entering a sensitive area as well as alerting hazardous waste haulers, truckers, and anyone in that area that a spill may impact the community's drinking water source.

We have worked extensively with the New Mexico Environment Department to update our planning process template to make it the best we could without it being a huge burden to the water systems to complete.

A very important part of the planning process is the last step, and that's emergency response planning. This is a very critical and very important activity that we are doing in the state. Source water protection saves money. When you do a source water protection plan you avoid the cost of future remediation dollars. The EPA has done several studies on this; for every dollar you spend on wellhead protection, you save eight dollars in remediation costs. If you look in your packet, Cathy was kind enough to include in my abstract some examples from Arizona and Utah about source-water protection and contamination costs around this area. I haven't been able to find a lot of good information for New Mexico but this stuff happens, and it costs a lot of money. And you folks know that, right? There are a lot of people in the audience whose job it is to remediate these things. You just want to avoid that situation if at

all possible. Now I did mention the emergency response plan. We have talked to a lot of small systems and put on seminars where we talk about homeland security and emergency response. People initially react, "Well that is probably never going to happen to our system in rural New Mexico." Really, the more seminars you attend, and the more you educate yourself on security, the more you realize we need to have something in place for all systems so that they have a plan of action in case something happens. This isn't just going to be terrorist attacks. Water systems may have to respond to events that happen to them, but really have nothing to do with the system. It could be something in the community such as natural disasters, a fire, anything that happens. Water is essential to every activity that we do. If a natural disaster occurs and you do not have an emergency plan in place, it's too late. It's just too late to plan how you are going to deal with that emergency. Our Association staff learned that lesson when we sent some folks to Texas to help with their efforts after Hurricane Rita. The Texas Rural Water Association is by far the largest rural water association with 45 staff members, extremely professional, and they do have an emergency response plan. Their executive director told me they just got blown away by the hurricane. In Louisiana, the Rural Water Association is still responding to the situation, and they will be responding for probably the better part of this coming year.

Now, I mentioned that New Mexico has been comparatively lucky with respect to groundwater contamination. Folks here may want to argue with that. With rural water, we have the opportunity to go to training all across the country. In a lot of these training sessions, I have gone on field trips with other groundwater and sourcewater protection specialists and I have seen what they have dealt with in their states, and it is usually much worse than what we have here in New Mexico. We have septic contamination. Secretary Curry will tell you that it is the largest issue we have in this state. We have a few other issues to deal with, but other states are worse off. They also have better mechanisms to deal with these issues because they have been driven by these problems. We don't have as many ground contamination problems; we don't have as much heavy industry; we don't have the kind of economic development that other states have, but all that is coming, right? You read the newspapers, and certainly that is something that is being

promoted for New Mexico. So right now is the time to plan for the protection of our water sources.

Certainly, the cost of drinking water treatment is ever increasing. The federal government is placing more and more regulatory requirements on systems, and that costs money. Yesterday, we heard about the funding gap for infrastructure repair and replacement throughout the United States. There are different estimates, but take your pick from \$300 billion to \$800 billion over the next 20 years. It's starting to get close to that trillion dollar mark. So this is an incredible amount of money. If we can avert increased treatment cost for contamination it just makes good business sense.

We have federal regulations coming down, the arsenic rule on January 23rd, the groundwater rule, more surface water treatment rules; rules are ever increasing. The radon rule is probably on hold right now but that could be coming soon as well. One of the latest things that EPA is investigating is a distribution system rule. That is really going to affect small systems because they're going to be responsible for maintaining uniform quality of water in all points of their distribution system, which is going to cost a lot of money. They are going to have to test their entire distribution system in a way they have not done before. The groundwater rule is going to impact New Mexico, particularly rural New Mexico. This rule is going to make you responsible for the quality of water in your source.

Conventional wisdom says if you have a bad bacteriological sample, if a sample comes back positive for bacteria, then that probably is from coliform growth in your distribution system somewhere. You then use chlorine at a higher level to flush your system. Well, EPA has done a lot of study on this and actually found that a lot of the bacteria are originating in the source, even in the wells, in the groundwater. Between twenty and thirty years ago we thought, well, groundwater is clean because bacteria and viruses don't move very well through groundwater. Of course we know that is not true today. If you do have a bad bacteriological sample under the groundwater rule as is currently proposed, you're going to have to go back and do source water protection. We really need to get on top of this now. New Mexico systems are struggling with putting in infrastructure. The numbers aren't great right now for New Mexico, but these are large dollars obviously. For smaller systems, it is going to be hard for them to afford this and also for other regulations that are coming.

Other things are on the frontier. Endocrine disruptors are something of a hot topic for those of us who are watching EPA and their regulatory rulemaking scenarios. Endocrine disruptors, you might have heard of them as pharmaceuticals, are a variety of chemicals that we ingest in our water. Pharmaceuticals are a small category of the larger group of endocrine disruptors. They act like hormones in the body and include possibly thousands of chemicals. Right now you can test for these substances in all water sources, including rain. They go right through wastewater treatment; they go right through your body. Are these things bad? Well, they mimic hormones in your body. They cause your body to react if that hormone is present or else they block your receptors so that your hormones cannot act as they should. Or they act in a different way that triggers a reaction that is totally different and may be harmful to your body. I think you can debate whether or not we have too much regulation, whether our water is too clean, but it is hard to say that these health concerns and contaminants like these aren't important. Practically everybody has pesticides in his or her body now. These endocrine disruptors are present in every source of water as I mentioned. Endocrine disruptors may be particularly bad news for the male population, as they often lower testosterone and increase estrogen.

Fish in wastewater treatment outfalls have altered sex characteristics in Colorado. These things are starting to become more and more documented. My point is that regulation is not going to decrease; it is not going to go away. It is going to increase; it is going to be very hard to make an argument that these things aren't important.

We are implementing source water protection plans to address these issues. But here's my point, here's my plea. There are several problems with what we are doing right now. One is that the systems really aren't able to implement the best management practices in the plan. This could be due to funding. They don't have adequate dollars to implement the plan. Or it could be due to a lack of other resources. Most water systems in rural areas in New Mexico are operated by volunteers. The systems are often a mutual domestic water consumers association or they're a cooperative, or they are some other private small volunteer-run system. They don't have any authority to protect their water sources besides the existing federal regulations. They can come up with a great plan, and many of them have. They really jump into source water

protection, develop best management practices. They have a great living, breathing document that doesn't just sit on the shelf. Their community planning team meets and decides this is what they want to do. But really their options, other than education, are very limited because they do not have the authority to protect the water source. I think generally in this state there is a lack of recognition of how important these plans are.

I noticed back there on the table yesterday there was the Trust for Public Land brochure. I think someone here is from the Trust for Public Land. They have a good document about source water protection. They have best management practices for source water protection. Let's see how we are doing with their best management practices. We are certainly incorporating the voluntary strategies in the plan, but regulatory strategies; very few folks other than municipalities are doing land-use regulation or any other kind of regulatory strategy for source water protection.

What is our long-term vision in New Mexico for source water protection? This is a legacy that we are going to hand to our children. They are going to have to deal with the decisions that we make today. Having measurable goals is tough. We really don't have funding sources in place for anybody to implement these plans. Municipalities pay for it on their own dime. The plans that we prepare are largely free, they are voluntary, and we could be doing better. We have got to find a way to fund this.

Now let's look at collaboration. Certainly you need to collaborate with your consumers because they are key to your water system. If you don't have the support of your consumers, nothing you do is going to be successful. I think we are doing this through our current process. We are involving the local stakeholders through the planning teams. Certainly water systems can band together with each other. That does occur. There's a good example down here in Doña Ana County. There is an alliance of several systems banding together for mutual aid. There is a Western Mora County Unified Source Water Protection Council. They have been around for quite sometime, and they have united just to protect their water source. These are good strategies. However, if you don't partner with someone who has authority to regulate land-use regulation, it's only going to get you more education, maybe more political pull. Certainly partnering with state agencies is critical and there has been a lot of progress made in this area recently. I'll talk a little more about that.

The NMED has started an initiative to integrate all of their information, especially their locational information across the entire department so that all the individual bureaus that are pulling together information for septic tanks or water sources are going to be able to share that information, if they're not already. Now there is the ability for the groundwater permitting section to look at source water protection areas when they are permitting a septic tank. This has already been happening somewhat but not on the scale and not as the coordinated effort that is being done now. I think the NMED is to be commended for this effort. It's critical.

Land-use regulation is most effective through the counties. It seems to be where it makes more sense to work with. I know several water systems have told me, "Well, I don't want to work with my county; they're a problem." Somehow we need to encourage breaking down these barriers. This is the challenge that I'm giving to you. There are a lot of people in

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this room who are very influential in this field, and this is something we need to support. We need to support counties working with systems and other local governments; the Councils of Governments (COGS) are a good mechanism to work through. Municipalities can be a good partner if there is a rural system nearby, although sometimes that is not possible. I certainly don't want to leave out tribal water systems. They are in a unique position because they do have authority to manage their land use. We have a contract awarded through the EPA to work with the Region 6 Tribes and Pueblos. They have some great models out there for source water protection plans. They have different challenges. Often their challenge is to coordinate their different departments including their utility department, tribal council, housing, whatever departments they have, and try to get them to work together. As a sovereign nation, they have a different scenario. We can learn from a tribal water systems planning process. I actually think that some of the best source water protection plans in the state are on tribal lands.

State government: this is an area where leadership is needed and should be provided. If we can't work through the counties perhaps the state government and the legislature are going to have to implement a solution, or they can just promote and help us advance this.

Please support your drinking water and wastewater personnel. They are the first line of defense for public health. If you don't have a good operator for your system, you have a major public health threat. Yesterday somebody mentioned that anywhere in the United States you can go and drink a glass of water and be reasonably sure that it is safe to drink. That is an amazing thing, which most people take for granted. Dr. Catlett also said, "Give them what they want, when they want it, and where they want it, and price is not an issue." Well water is the exception to that, right? We give you high quality water where ever you want it. There is probably a tap somewhere near you virtually all of the time where you can get water, it is very convenient, and it is safe. But people don't even view it as a market good, so price is still an issue. So support those personnel.

Advocate source water protection. If you are interested in becoming involved certainly build partnerships. Today I am here trying to educate, but it's the politicians who can provide leadership to avert the looming crisis. It may be a regulatory crisis, it may be a financial crisis, or it may be truly a crisis of contaminated groundwater.

I would also recommend that you maintain the voluntary nature of this program. A lot of times people suggest this should be mandatory. It actually works very well voluntarily. It is by far the most successful voluntary program that the EPA has ever implemented. But it does need to have support. It does need to have regulatory support or the plans will not remain viable. It does allow folks to maintain local control over their water source and land use and provide them a stake in it. Somehow we need to provide funding for these folks to implement the plans. The Environment Department is talking about providing recognition through the office of the Governor or in some other way.

Folks may say, too, that we should be looking at watershed protection. That is another comment I get frequently. And that's true, watershed protection is critically important. It does affect your drinking water source and your source water. However, I think that we need to start here with the drinking water plans and try to implement this. It would be great to expand that to full watershed protection.

Regarding the counties, I do have one statistic I want to end with today. That is, the National Association of Counties surveyed 180 counties and found that fewer than 24 percent own or operate a drinking water system. But over 50 percent reported that they have statutory land-use authority to protect drinking water sources. Now there are counties here in New Mexico that have that statutory authority, but it is just not really happening.

With that I think I did go over my time. Is Secretary Curry here? I thank you very much. We may have time for a couple of questions while he is getting situated.

Q: It seems to me there is a sort of contradiction. I understand you are favoring the voluntary nature of source water protection, but how do you reconcile that with the obvious need as you say for protection?

A: The perspective I am coming from is that we are already putting a lot of regulatory burden on water systems. We are telling them a lot of things that they have to do. Then a technical assistance provider comes in and says here is something you can do for yourself that will yield the following benefits. They do this not because they have to do it, but because they want to do it. A whole other set of outcomes happens because of that. It is a good point. I think that certainly counties or the state, if they want to implement this and require it as a condition of funding, that may be a good idea. I think that does make sense, but the reason why I would maintain the voluntary nature is that the only pay volunteers receive is recognition, and if we force them to do something, they may not want to invest their time into doing it. Right now source water protection planning is something that is more than just lip service, it is more than just a plan that you are going to put on the shelf.

Thank you.