

WATER/Host Open

Draft June 28, 1994

Montage...water wheel base shot, images of people in Ganges, boats in silhouette, shoveling irrigation furrows in El Paso,, filling a cistern in Juarez, hauling bucket out of cistern, washing clothes, open an irrigation gate in El Paso, hosing truck in Mexico city.

Montage is overlaid with font of words for water

There are as many different words for water as there are cultures on the earth.

But people throughout the world have one thing in common...we've always put water to work.

It is essential to civilization.

music continues a few seconds..as the montage goes on...

Music mood changes...sun glint on water bridge...words in different languages end

Base shot changes to Middle East

But imagine a world where water is rationed, based on race or religion.

It is...in the Middle East.

Base shot of officer driving...montaged with sprinklers and agent photographing a water wasting "crime scene":

Imagine a world where special police patrol the streets to catch people wasting water.

They do...in parts of the United States.

Base shot of African women carrying water

Imagine a world where 30-thousand people die every day because of dirty

drinking water.

They do, in many developing countries.

ocean waves aerial

water

The earth is entering a period of global crisis.

water globe illustration with font "WATER"

And the stakes are tremendous, because without water, life itself is impossible.

music resolves, Water word disappears from screen
dissolve to studio

Host walking to camera

Of course there's plenty of water in the world...three-quarters of the earth is covered with it.

But in many places, people are using water far faster than nature can replenish it.

hit mark, waist-up shot

In the next hour, we're going to visit parts of the United States, Australia, Mexico and New Zealand.

They are places where people have learned the importance of water conservation.

Host on camera

Before we begin our journey, I'd like you to think about the old saying "water water everywhere but nary a drop to drink." It really is true.

montage of shots and graphics of numbers

ocean waves

97 percent of the earth's water is in the ocean...to salty to drink.

glaciers/antarctica

Two percent of the world's water is frozen in glaciers and the polar ice caps.

california scenics

Which leaves about one percent.

Just one percent of the world's water is available for people to use...

Host on camera

Which makes it the world's most precious natural resource.

One place that's clear is the western United States.

Water is so scarce in the state of California that it has sparked an

economic battle between cities and farmers.

We sent reporter Terry FitzPatrick to investigate a conflict that we all may face some day.

WATER/California Segment

FitzPatrick/Draft: December 20, 1993

Music sting (blues slide guitar sting)

Shot of dusty field and farm house

surrounded by palm trees t-10/23:10 or t-15/00:32 or t-15/1:46

Fisher (voice only) t-11/5:00 It has always been thus. For two, three and four thousand years, man used water in the desert to be able to raise a crop and have his own civilization there.

Combine harvesting with sprinklers behind it t-12/29:20

Fisher (voice only) t-11/4:23 Perhaps it isn't natural but it's been done by man since man had enough ingenuity to use that extra water to raise a crop.

Drive along inside shot
(front seat) t-10/13:14

Dana Fisher is one of the most
successful farmers you'll ever meet.

rolling shot of rows of crops t-11/00:36

His farm stretches about as far as the
eye can see.

Drive along two shot (camera in back seat) t-
10/1:28 Fitz: And what do people grow
around here? Fisher (pointing): Cotton,
alfalfa, lettuce. (cut to rolling shot of crops t-
10/13:53) Fisher (voice only) t-10/1:35 Those
are some of the major crops right here.

t-11/8:08 Fisher open water gate.
Nats of water rushing into field.

This is what makes Dana Fisher's farm
so successful.

t-11/10:03 Water flows in rows

Irrigation has transformed the Palo
Verde Valley into an agricultural oasis.

t-11/14:45 Fisher opens another
gate and walks toward camera.

But like many California farmers, Dana
Fisher has found a better crop than
cotton, alfalfa or lettuce.

Fisher is selling some of his water to

the cities of southern California.

Fisher (on camera) t-11/28:25 We took the land out of production and promised, well of course more than a promise, we contracted to leave it out of production for two solid years, for 24 months. Fitz: So Los Angeles can take the water? Fisher: Can take the water.

Fitz/fisher walk in fallowed field t-12/19:30

The Metropolitan Water District of Southern California pays Fisher \$620 an acre not to grow crops on part of his farm.

That's more money than he could make if he did plant crops here.

de la Paz closes lateral gate t-11/12:02

It's a pilot project to see if cities and farmers can cooperate in managing California's scarce water supply.

tilled barren field t-15/1:14

25-percent of Fisher's farm, just like 25-percent of the entire Palo Verde Valley, is barren.

Fisher (on camera) t-12/5:25 Well if the cities want water they can get it normally because they can afford to pay so much more for it. Fisher t-12/8:38 There's an old saying (edit) that water flows toward money and it doesn't require gravity.

Music/Fountains/skyscrapers t-16/29:11

Here is where Dana Fisher's water will end up.

second music sting
tight of water jet tops t-17/1:08

Water filtration plant pan t-18/5:19

The cities of southern California use more than 800-billion gallons of water a year.

tight of water t-18/3:55

It's enough water to flood the entire city of Los Angeles--8 feet deep.

Most of the water comes from hundreds

of miles away...through elaborate networks of dams, aqueducts, and filtration plants.

Fitz/wodraska walk & talk on catwalk t-19/5:31

John Wodraska heads the Metropolitan Water District, which buys and delivers water to 300 communities in southern California.

Wodraska (on camera in control room) t-18/20:10 The water that is made available to the urban interests, the multiplier effect for that investment, brings thousands--or millions--of dollars into the economy and thousands of jobs. t-18/14:45 Clearly the highest and best use of that water from an economic standpoint is that the urban interests are going to get that water.

manufacturing stock footage

98-percent of the jobs and the economic output of California is in the cities, not on the farms.

And to prosper, factories in the city need water.

irrigation sprinklers t-6/19:22

But more than 80-percent of California's water is used by agriculture.

tight sprinklers t-6/20:18

That's why the Metropolitan Water District is looking to buy water rights from farmers.

Wodraska (on camera) t-18 24:16 I've had farmers tell me the best crop they've had this year has been Metropolitan, that's the only thing that's actually made them money and it's allowed them to keep in business and farm in a future year. Fitz: Selling the water? Wodraska: Selling the water to Metropolitan ends up being the best alternative in some cases to those farmers who are just breaking the ground and, and developing this whole new field of water transfers.

fisher/ de la Paz look at field t-11/15:50

The Metropolitan Water District paid 27-

million dollars to farmers in the Palo Verde Valley.

They're pleased...but many other farmers feel this deal with Los Angeles was a deal with the devil.

They're afraid California could repeat one of the most notorious water grabs in the history of the American West.

Fitz Standup walking on diversion dam t-9/9:50 What farmers are worried about is what happened here in the Owens Valley of California. This was once rich farmland. There was plenty of water and lots of potential for the future. But that's before the city of Los Angeles came here. In the early 1900s the city bought virtually all of the land in the valley and then built this dam. And water that used to flow to the farms of the Owens Valley is now diverted 200 miles to the city of Los Angeles.

Steward, standard interview shot t-7/5:43 My dad told me that a lot of the ranchers here owed a little money and they figured that was a good way to get out of debt, see, to sell. Because the city was offering a pretty good price at that time for land.

historical stills

Farmers didn't realize Los Angeles was after the water, not the land.

Agents for the city said they were building a cattle ranch and summer resort.

But secretly, they were buying key parcels of land that controlled the water supply.

t-7/6:34 Divided and conquered. That's what the whole thing was. Fitz: You a little bitter about how that happened? Steward: I'm very bitter. I hate the city of Los Angeles more than anybody, I'll tell you that. For destroying this whole

valley. I feel that this would have been a beautiful valley today.

loading hay (pan) t-7/26:03

Ken Steward is the only farmer who hasn't sold his land to the city of Los Angeles.

The city has been offering to buy his place for decades.

tilt up shot of farm t-8/13:23

Steward's 160 acres of alfalfa is the only green spot for miles.

walk with son and dog along sprinkler
t-7/20:35

He uses well-water to keep his farm going.

Steward t-7/15:09 (covered) A lot of people think I'm crazy because I'm still here instead of selling out to them. And, but I haven't much longer to go and I've, I figure that I want to leave my son something and if, whatever they want to do with it, that's up to them.

Music bed/Historical b/w moving footage from LA Water & Power Dept.

7:21 Steam shovel/ore train

7:17 Horses haul pipe

When Los Angeles built its aqueduct to the Owens valley...

7:46 pipe snakes through countryside

... it was heralded as one of the world's greatest achievements in engineering.

12:36 Opening gate/water flows

The water flowed over mountains, through giant syphon tunnels...and then, through the desert to Los Angeles.

Bishop Museum still #1 (pan) t-6/4:59

For a while, farmers were allowed to lease back some of the land and the water rights they had sold to the city.

slow dissolve to parched cracked
earth t-8/19:27

But as Los Angeles grew, the city took more and more of the water it owned,

away from the Owens Valley.

LA Times headline "Aqueduct is periled
as Anarchy rules... t-3/18:56

Farmers were so bitter...

Tight of news illustration
"Might vs. Right" t-3/18:25

...that one of Steward's neighbors
sabotaged the aqueduct in 1924.

News illustration of syphon outlets t-3/17:26

Steward t-7/13:25 (covered) He blew up that syphon and
when he done that, that destroyed the syphon and
everything else and it (on camera) took them a year and
months to fix all that. See, they had to repair all the new
pipe and everything like that. Fitz: You're smiling when you
say that. Stewart: I, I was glad. If I'd been, if I was young
right now I'd try it myself. I'll tell you.

music/cars on strip t-6/18:41 and t-6/17:11

The Owens Valley is now a tourist stop
for people on their way to Yosemite
National Park.

tilt up t-8/15:14

The major display of water is a fountain
outside the Chamber of Commerce.

The loss of water meant the loss of a
way of life.

Steward t-7/7:38 There's no opportunity for young people
here. The only jobs you got here are service jobs, in a
service station, in a restaurant, places like that. And a man
with a wife and 3 or 4 kids, they can't afford it. They've got
to work and then they can't hardly make it

wide of valley t-8/15:14

What happened in the Owens Valley
taught Californians that their future
depends on who controls their water.

historical stills

Water here is property...and people
guard it jealously.

The state's history is marked by intense
competition between cities and farms

to develop a reliable water supply.

Whitsett: Out here in southern California, we're building a great empire at the edge of the desert. If we are to survive and to grow we must have the water that will enable us to maintain our mastery over the desert.

aerials

California now has the most elaborate water works in the world...enough canals to reach two-thirds of the way around the earth.

Farm water shots

Farmers still control most of the state's supply, despite the loss of water in the Owens Valley.

workers build house (stucco) t-17/23:17

If cities want to grow, they have to take water away from farms.

bulldozer at housing site t-17/26:04

There's no place left to build new dams.

Two shot standing over maps at table, Fitz & Kennedy NATS: t-3/20:04 Okay, well, Southern California gets water from three sources....

David Kennedy heads the Department of Water Resources for the state of California.

Kennedy was able to convince farmers to share their water with cities when drought hit California several years ago.

Kennedy one-shot t-3/24:29 Well the basic concept was we would buy water from willing sellers, those farmers, irrigation districts, who either had more than they needed or were willing not to use water that they otherwise would have put to use in return for being paid.

capitol shot

At the time, cities were so desperate for water they were urging the governor to declare a state of emergency and

commandeer the farmer's water supply.

Kennedy on phone pan from wall t-4/24:45

But Kennedy developed his idea for a California Water Bank.

And farmers who had fought to protect their water rights, suddenly called David Kennedy to sell.

Kennedy on phone "Oh, that's good to hear."

Kennedy (on camera) t-4/00:32 I think we're all convinced that was a better way to do this by compensation, negotiation, cooperation, rather than confrontation and everybody going off to court.

Fisher & de la Paz at pump t-10/9:59

tight of de la Paz priming pump t-10/11:06

The water bank lasted only two years, during the worst of the California drought.

Although the bank has closed, the idea of selling water caught on.

Cities are rapidly buying whatever water farmers will sell.

owens valley shots

Will cities buy *all* the water in a region, and repeat the experience of the Owens Valley?

The cities say no.

Wodraska: t-19/2:53 Because of the history of this issue, we are very sensitive to coming in and dealing on a voluntary basis with the individual farmers and trying to work out a deal that is going to be beneficial to both parties.

Auctioneer t-14/9:26

But already, the sale of water is having unintended effects.

When farmers in the Palo Verde Valley took their cotton fields out of production, the local cotton gin went bankrupt and

was put up for auction.

Shropshire t-13/20:41 We just got down to the point we didn't have enough acres to justify running, and with the cost to, to maintain an operation in this day and time, it's just, wasn't feasible. So here we are. We're we're going. We're history.

Auction

Low cotton prices put the gin in trouble to begin with...

The two-year program to sell water to Los Angeles was the final straw.

Shropshire t-13/26:10 If they renew those contracts, those leases, then I think it is a dangerous trend. And certainly I hate to see a little area like this, as remote as it is, go out of agriculture because they don't have water to farm with.

Auctioneer: We have sold it for 95-thousand dollars.

auction shot

This is the risk of selling water.

But for every loss on the farm, there's a gain in the city.

flooding a field

With the water it takes to flood one acre of farmland, factories can generate more than 2,000 jobs.

Wodraska t-18/25:35 As we go forward and we take a look, there are going to be people displaced and there's going to be some tough decisions that have to be made. t-18/14:27 And I think in our system, economics has driven a lot of those value decisions.

music montage/irrigation channel

Despite the problems with water sales they are the wave of the future throughout the Western United States.

Should there be a free-market for water???...

....or should someone control water sales?

Should someone manage the price of water???...

...and decide who will ^{win} and who will lose in the battle between cities and farms?

These are still unanswered questions.

steward gets in truck

For Ken Steward, there's still the ultimate question...

...will farmers eventually forget what can happen if they lose their water supply.

Steward insists what happened to farmers in the Owens Valley, could happen again to farmers someplace else.

Steward t-7/10:53 And I'd say if they want to stay in farming to not give that water up, no way. Fitz: Not even for a couple of years? Steward: Not for any time. 'Cause if they, once they take the water, it's going to be awful hard to get that water back. As I say, money talks.

END OF STORY

Host

Vignette A (between California and Australia)

Music cut 1

Montage...African women carry water...crawling graphic: Water Economics

World-wide, more than one billion people cannot afford life's most basic necessity: clean, reliable water.

In fact, dirty drinking water is the world's single largest killer of children.

Host on Camera

Developing a dependable water supply can dramatically improve people's lives.

But there are economic limits to what water technology can do.

Peace Corp/ Lesotho villagers erect tank

Small-scale projects are helping people in developing countries like Lesotho.

With these tanks, people collect rain from their roofs.

Canadian Aid/ Fog collectors

In parts of Chile, people even use plastic nets to capture moisture from fog.

ocean wave nats

But many sources of water are just too expensive to be practical.

For example, it's technically easy to take the salt out of sea water.

KCTS de sal machine

But desalination takes tremendous amounts of energy. Only wealthy nations, like Saudi Arabia, can afford it right now.

Host on Camera

For most of us, the best way to get more water is to conserve the water supply we already have--and make it go further.

A good example is Australia...where
reporter Lucy Broad visited the cattle
grazing towns of the Outback.

WATER/AUSTRALIAN SEGMENT

Revised script...December 8, 1993

(Music/Aerial over Queensland t-104/9:20)

Lucy t-103/13:03 How often are we told that Australia is the driest continent on earth? (On-camera) In fact, the truth is we have one of the largest resources of water to be found anywhere in the world. Although the land below us may look arid and dry, the problem is not too little water but too much.

Nats:Plane landing t-100/1:03

Lucy greeted by Brennan t-100/2:56 or t-105/4:16

Welcome to Charleville, southwest Queensland...where I'm being met by Ged Brennan from Queensland's department of water resources.

Nats:truck driving over ditch

Brennan is trying to protect an ancient source of water that's vital to the economic health of Australian cattle graziers.

Nats running water/CU bore t-105/11:18

This is it. Artesian water.

Lucy & Ged walking to bore t-105/16:50

Throughout Australia people have drilled thousands of Artesian bores. Over one thousand of them gushing uncontrollably just like this.

(Crouched at bore) t-105/15:10 Lucy: Ged this is really hot, it's like being in a sauna! Ged: Yeah it's really warm, Lucy. It's probably about 65 degrees celsius.

Lucy: Wow. And does it flow like this all the time. Ged: Yeah, this is a flowing Artesian bore, the water's coming from the Great Artesian Basin. The depth here is somewhere in the order of 800 meters. This has been bringing water from 800 meters below the ground for almost a hundred years.

Hydrologic Map of Australia
(from the Mound spring story)

The Great Artesian Basin is one of the world's largest underground reservoirs...covering a quarter of the continent of Australia.

The water comes from rainfall in the coastal mountains, and slowly travels inland like a giant underground river.

shot of bore flowing t-105/12:19

When people drill a bore, the water bubbles to the surface under its own pressure.

bore pool and channels t-105/11:44

Cattle and sheep graziers then channel the water through open drains.

Cattle crossing stream t-101/9:33

And that's the problem.

sheep drinking

Most of the water inside these drains is wasted.

Brennan on Camera with bore drain in background

Brennan t-102/8:39 Probably about 90 or 95% of the water in the drain system would be wasted through evaporation or through percolation into the soil. Only a very small percentage of the water coming from the bore would be actually consumed by stock.

more sheep drinking

pan drain to bore t-101/9:43

Brennan (covered) t-105/19:40 So what we really need is to more efficiently distribute the water that we've got.

water splashing

Artesian water has been essential to life in the Australian outback.

tight of bore head

But for generations, wasting water wasn't a worry....

old still photos/music

It was well over a century ago when the first bore was drilled.

Music Bed. Various black and white photos of early bores

Suddenly there was good, clear and seemingly limitless water...allowing people and animals to live in arid and previously inhospitable areas.

Bores were put down by the thousand, making it possible for a huge grazing industry to develop.

And to support it...towns.

Music. Nats: truck driving t-103/7:45

This is our next watering hole. Wyandra, population 99....One of hundreds of towns throughout Australia that simply wouldn't exist if not for artesian water.

Nats: Interior of bar t-102/20:53 Lucy: Two beers and a glass of water? Waitress: And a glass of water? You don't like ice in it, or what? Lucy: No. Just straight.

Waitress: You might not like the taste.
 Lucy: Why this is bore water. Waitress:
 Yes. Lucy: What's it like living in a town
 with artesian water, with bore water.
 Waitress: Oh god, getting use to it. Lucy:
 What's the problem with it. Waitress:
 Sometime it stink.

Man at bar t-103/00:35 Artesian water is
 pure, it might stink a bit, but no,
 beautiful.

Man at bar t-103/1:30 I find it good for
 washing. You only need half the soap
 powder.

Nats:interior of bar T-102/20:30

Windmill

Lucy next to bore T-101/00:30 This was
 an Artesian bore drilled back in 1898.
 When it first went in the water flowed at a
 rate of over 6 million liters a day and the
 pressure was enough to push the water 25
 meters into the air, that's higher than this
 tower. Now it's 5 meters under and the
 owner has to use this windmill to bring it
 to the surface.

Nats: water flowing through spout t-100/20:20

tight of pipe outlet t-100/19:40

bore pool

The artesian bore that
 supplies the people of
 Wyandra is just one of
 5000 throughout the
 basin.

The question is, is there
 enough water to go
 around? Already 1500
 bores have gone dry.

Is Australia running out
 of artesian water?

At first people thought
 they were.

But scientists have
 discovered that water is
 entering the Great
 Artesian Basin as rain

dissolve to CU bore head

Music/Graphic

Nats T-102/1:50 Water flowing from bore.
Ged and grazier standing in background:
Will you fill this in across here?

Nats T-104/00:45 pan drain to bore (Lucy on camera
holding bore-cam) Before any work can be

at least as fast as it's
being lost through
bores.

So if supply is not the
problem why are some
bores drying up?

The answer is
pressure... or rather, the
lack of it.

When the first bores
were put in the pressure
pushing the water out
was very high.

But as each new bore
was drilled nearby, the
pressure progressively
decreased...to the point
where at some bores the
flow ceased all together,
and water had to be
pumped out.

To prevent more bores
drying up, Ged
Brennan's job is to
persuade graziers to
bring these free-flowing
ones under control.

Brennan t-105/21:10 The graziers
generally accept the rehabilitation
program as a good idea simply because
we're aiming to save a resource that's
really precious. The artesian water that
supplies a lot of western Queensland, is
probably the lifeblood of the pastoral
industry in Queensland.

done on these bores you have to know what condition they're in and this is one of the tools that will tell you. (bore-cam POV) This specially designed camera will give you a worm's eye view of the condition of the bore casing. Okay Warrick, let it go.

Bore-cam view of inside of casing T-104/6:00

construction

If the casing is in bad condition it means either replacing it...

...or drilling out a new bore.

Capping a hundred-year-old bore can be a long and expensive process...

...making the protection of artesian water a huge job that's only just begun.

Nats Ged gesturing/walking with grazier t-102: You can get galvanized steel to put it in, but probably the cheapest way would be polypipe--just to get it into the drain again.

Ged Brennan tries to convince graziers that capping their bores will save them money.

nats: man puts pipes on bore head t-102/12:16

By using pipelines instead of open drains, graziers can make better use of their land.

Brennan t-105/22:38 The artesian bore naturally provides the pressure to power the pipeline. So in other words, instead of using a bore drain, which will only run downhill, water can be pushed from natural pressure to areas that were previously unwatered on the place.

construction welding

The government covers 80 percent of the cost.

But even with the subsidy, capping a bore costs more than most graziers can afford.

Brennan t-105/20:53 Well you can talk in the range of a couple thousand dollars for a bit of minor works around the head of the bore right up to somewhere in the order of 70 or 80 thousand dollars, easily, to construct a deep artesian bore.

cattle at drinking station

Graziers who have capped their bores say the benefits are well worth it.

Grazier on Camera

Bob Quinlan t-102/18:20 Well, bore drains are expensive to maintain. They're a lot of work. And eventually all the water'll be gone, won't it. There'll be none left. So if you close them off, you build up pressure in your bore and then you should have a resource there for many more years.

pan drain to bore

Beside the economic advantages, there are environmental reasons to stop the uncontrolled flow of artesian water.

mucky green swamp t-100/22:53

Some of the open bore drains have turned the arid landscape into a slimy swamp.

Tilt down from dead trees t-105/5:19

In other places, evaporating water leaves behind a film that kills the natural vegetation.

Crotty w/stream and dead trees in background

Crotty t-105/6:42 It's putting salt and minerals and things into the ground and

I think the Mulga trees are suffering because of it. You can see, they're dying all the way down through there to the, towards the creek.

Music/bore pool

Capping the free-flowing bores of Australia will solve these problems... but with so many bores, the job will take years to complete.

Brennan t-105/23:16 (covered) I think it's becoming more and more important as time passes. (edit) because(edit) some bores will (edit) continue to lose flow and some bores will (edit) cease to flow. (on camera) So if we can stabilize the system or perhaps increase the pressures, then it will be to the benefit of all users.

aerial t-104/14:50

When the work *is* done, wastage will be reduced and environmental problems will be much easier to control.

There will be more water for town supplies, mining or even irrigation.

On such a dry continent water is too valuable a commodity to simply let it run to waste.

Host

Vignette B (between Australia and Mexico)

Music cut 4

NASA orbit shot...world map comes over it. Crawling font: A Thirsty Planet.

Factoid super: 26 countries now have more people than their water supplies can sustainably support.

Factoid super two: Many other countries are draining natural reserves by using more water than they receive through snow and rain.

Host on Camera:

Throughout the world, people are moving from the countryside into the cities, to seek better jobs and a better way of life.

Unfortunately, the bigger a city becomes, the bigger its water problems become.

Our next stop is Mexico City...one of the largest cities on earth. It has dramatically outgrown its water supply.

Our report in Mexico is produced by Magdalena Acosta.

Water/ Mexico City

Update: July 1, 1994

Scottie music...percussion, upbeat mood

Static city high shot

music mood changes...eerie

Music resolves

Bertha gets water from tambos

Bertha carries buckets to house

Moya t-22/24:07 When I arrived here, I came to value water because it really is very heavy labor to go two blocks away to get two buckets of water. because it's very tiring, you learn how to value water.

Cuando yo llegue aqui valore el

Mexico city...capital of one of the world's most rapidly developing nations.

For millions, this is a city of opportunity...a prosperous and attractive place to live.

Unfortunately, Mexico City is also one of the most crowded and polluted places on earth.

And for many residents, getting water has become an urban nightmare.

Shortages are an everyday fact of life.

Mexico city's economic success, could also become it's downfall...because of water.

The intense demand for water means people like Berta Moya have to haul their water from public barrels.

Moya lives in the hilly fringe of town...in a neighborhood growing faster than authorities can lay new pipe.

liquido, porque realmente es un trabajo muy pesado y hasta dos cuadras para traer dos botes de agua, porque se cansa uno, es un cansancio y sabe uno valorar el liquido.

Betha loads family drum

Tight hose in tambo

pipas driver wide filling tambos

tight hose in tambo

Moya t-22/19:28 We have been told that the drinking water network is on its way and that little by little they will introduce service. In a community that's beginning, it always takes time.

A nosotros nos han dicho que la viene la red de agua potable y que, poco a poco, van a ir metiendo los servicios. Siempre en una colonia que empieza, siempre tarda.

Pan to house, Moya does laundry

DISSOLVE to family walking to home

Margarita opens tap

Managing the family water supply is an endless chore for Berta Moya.

Six people must share 70 liters of water per day--one-third of a barrel. That's far below what's recommended by public health experts.

About six percent of the population here does not have plumbing in their homes...

...so more than a million people have to haul water from public barrels, which are filled by tanker trucks each week.

However, Moya's problems won't be over when she gets running water in her home...because in Mexico City, even people who have pipes have problems.

The Cortes family lives in the urban core of Mexico City.

When they turn on the tap, usually nothing happens.

pulling up water from old washing machine

Water comes for less than a hour each day.

David Cortes t-4/25:35 What happens here is authorities have a policy to give a certain zone a certain amount of water. They only allow a certain size pipe, and they do not allow more connections. So in practice, we're in the situation of rationing water.

Nada mas que aqui lo que sucede es que la politica de la delegacion es: determinada zona se le de una cantidad de agua. Permite solamente una dimension de tubo, entonces no permiten conectamos de mas, sino que practicamente estamos en una situacion de racionamiento de agua.

The Cortes family owns an apartment in a sprawling complex called Biatlon.

high shot of complex

family on stairwell

Here, water shortages pit neighbor against neighbor...even brother against brother.

rebar sticks up from roof/laundry

Many of the buildings in Biatlon were never finished, and like many places in Mexico city, squatters have invaded.

children squatters

mother & baby squatter with coke sign

Their presence makes the water situation worse because there's not enough water for all.

David Cortes t-4/27:50 More connections promote social upheavals. For example, in our case, we don't allow squatters to connect to our pipes because automatically

we would have to share water that isn't enough for us.

Al conectarse, la gente provoca explosiones sociales. Por ejemplo, nuestro caso: nosotros no les permitimos a lo invasores de que se conecten a nustras tubos porque automaticamente damos un agua que, si ya bien no nos alcanza para nosotors, ahora compartiendola pues, menos.

Leticia hauls water from cistern wide

leticia tight sequence

man ladles water from tap with hoses

high shot of gerardo walking in street

Gerardo Cortes t-7/22:34 We are not the problem. We only want to be understood, that's all. We're human beings, we have the same rights as those who supposedly have more rights. We're human beings and we have the same rights. We have a right to be listened to and to get the services we're entitled to, and that they have to provide.

Nosotros no somos problematicos, solo queremos que nos entiendan, nada mas. Somos seres humanos. Tenemos los mismos derechos que aquellos que tienen mas, supuestamente. Somos seres humanos y tenemos los mismos

Because they can't hook up to the water main, some squatters have joined together to keep water in a concrete cistern.

Others have improvised a network of plastic hoses from a public tap.

Ironically, the leader of the squatters is the brother of David Cortes, Gerardo.

derechos. Tenemos derecho a ser escuchados y a recibir los servicios que nos competen a nosotros y que les competen a ellos hacer.

Leticia hauls water up stairs into home

Gerardo Cotes t-7 I demanded they not ignore us, that we're not animals, that even if we were irrational animals, we'd also have a right to water. Otherwise we'd die.

Entonces yo le exigi que no nos tuviera a un lado, que no somos-- ahora si que aunque fuesemos animales irracionales--pues que tambien derecho a tomar agua y que si no, se nos mueren.

green hose and squatter boy

pan of blue hose going into house

David Cortes t-4/28:44 To avoid social conflict the authorities gave them permission to connect to the water main because--of course--we all have a right to water, don't we? And so they also have a little bit of water, just like us. But it's clear that it's not a problem of where you come from, a different city or different country even. The problem is that there isn't any water. That is the problem.

Traditionally, squatters have little right to public service because they do not own their homes.

But they have relentlessly pressured authorities to improve living conditions at the Biatlon apartments.

After months of arguing, officials finally let Gerardo Cortes and his neighbors connect hoses to the water main...despite the objections of his brother David.

Ahora lo que sucedio fue que para evitar esa explosion social pues la delegacion, el departamento, les dio oportunidad de que se conectaran y les llegara, pues, un poco de agua tambien a ellos. Claro, pues todos tenemos derecho al agua, no? Y pues, ellos tienen tambien tienen, pues, un poco de agua que nosotros.es una problema.

Same music/Jorge Reyes

water sales boy yells agua

DISSOLVE to Bertha carrying buckets

DISSOLVE to Leticia carrying water up stairs

man gets water in bucket at construction scene

tight of bucket and tap

construction shot of highrise

(music fades)

Wilk at computer drafting table wide

tight of wilk face

computer screen

over shoulder shot

computer screen

This is how the demand for water continues to explode in Mexico City.

Requests for new service in neighborhoods at the edge of town....

...and complaints for better service in established communities.

Just about everywhere in Mexico City, there's some kind of problem with water.

As new buildings go up, water pressure goes down.

The question for urban planners is how big can the city grow before the water runs out?

David Wilk is part of a special team investigating the future of the city's water supply.

Wilk 21:16 This is a city that presents poor conditions for a concentration of 18 or 19 million people. (edit) This is a fundamental problem. In the long term, we'll see an imbalance with the water resources of the Valley of Mexico. We are consuming much more than the geographic situation will support.

Esta es una ciudad que presenta condiciones poco favorable para una concentracion de poblacion del orden de 18 o 19 million de habitantes. (...) Ese es el problem fundamental, que a largo plazo veremos un desbalance en los recurson hidrologicos del Valle de Mexico, teniendo un consumo mucho mayor de lo que puede ofertar la situacion geographica, el lugar geographico, a la poblacion.

Pan/tilt wilk hand to face

computer screen

Wilk hand on topo map with mouse

pan of street to leaning building

Franz Meyer church

DISSOLVE to rack-in focus of aquiferico tunnel construction & twilight zone tunnel shot (sound from t-10/12:15:02)

Mexico city currently gets 70-percent of its water from the aquifer beneath the Valley of Mexico...which is home to the city and its suburbs.

But people are depleting the aquifer at an incredible rate...

...so fast, that much of the city is actually sinking into the spongy soil.

Some older buildings are leaning over, and pipes are breaking underground.

Engineers are trying to solve the problem with a scheme to import water from distant rivers, and distribute it more efficiently.

tilt/pan of Martinez at blueprint table

But in a city growing so fast, even the chief water engineer--Juan Manuel Martinez--says more than construction projects are needed.

Martinez t-9/23:12:01 Everything is important...(edit) t-9/22:15:16 But the thing that is most important of all, the area where we can have the greatest effectiveness, is creating awareness by water users. so that people use water in a proper manner, without wasting it, so we can make the water last for many years in the Valley of Mexico.

Todo es importante, (...) pero la mas importante de todas, la que creemos pue puede ser mas efectiva, es la creacion de conciencia de usuario para que utilice en forma adecuada--que no desperdicie--el agua, y que de esa forma podremos tener ese liquido para muchos anos.

Club H2O commercial nats: Kid, you can do a lot to help the water supply...

Tu puedes hacer algo por el agua...

Nats from commercial: reporta 654-3210.

second commercial, kid with toilets

Mexico city is encouraging people to conserve what water they have.

This commercial urges children to report leaky pipes.

Right now, 30-percent of the water supply is lost through leaks.

The city is also targeting the biggest water-guzzling device of all.

water recycling pumps

water spillway

wide plant filtration canal

tight of water and plants

Martinez 9:24:59 I am optimistic
because the public is acting in a
positive way.

Yo me siento optimista porque la
poblacion esta actuando
positivamente.

Music Reyes conch shell

wide sunrise at Xochimilco

misty canals

tight ducks

DISSOLVE to wide ducks

DISSOLVE to man poling boat

DISSOLVE to moving sequence
(daylight)

over shoulder shot in boat

Newly manufactured toilets can use only six
liters of water.

And for the first time in Mexico city, there's an
alternative to using fresh water.

The city is encouraging large consumers, like
factories, to use treated sewage instead.

This is where the city must take it's boldest
step in water conservation.

It's hard to believe this is part of urban
Mexico City.

But these canals and the hills behind them are
the only places that haven't been covered
with concrete.

Here, rain can seep underground and
recharge the natural aquifer.

Environmentalist Tere Aznar warns the city
could lose its water supply if homes are built

moving side shot right

here.

Aznar t-16/13:51:14 if you cancel this recharge of the aquifer, in a very short time t-16/24:53 the city would collapse.

Aznar t-16/22:08 Everybody talks about air pollution, but we feel that the most serious problem confronting the city is water.

Si se cancela esta recarga de los mantos acuiferos, pues, en un tiempo muy corto (edit) la ciudad tendria un colapso.

Toda la gente habla de la contaminacion atmosferica, pero consideramos que el problema mas grave es el agua.

There was a time when most of Mexico City looked like this.

two men in boat

DISSOLVE to museum painting

In the days of the ancient Aztecs, Mexico City was virtually *surrounded* by water.

DISSOLVE to panning high shot

But now the lakes are gone, victims of urban growth.

DISSOLVE to limit of urban area sign zoom in

To protect the few undeveloped patches of land still surrounding the city, officials posted signs years ago--declaring the area "off limits."

But land speculators ignored them.

pan home to marching police

So environmentalists pressured authorities to set an example.

mother and daughter

In 1988, police evicted more than three

thousand families...who had been tricked by speculators into buying plots of land.

pan bathtub to street

Their homes were destroyed and the neighborhood was turned into a park.

loading furniture onto truck

The families were resettled in an area that isn't critical to the survival of the water supply.

woman with baby and tambo

The evictions left bitter feelings and officials are reluctant to remove more settlements by force.

new construction..two men hammering

In fact, officials allow new construction just beside the neighborhood where families were removed.

man shoveling cement

shot of Bertha's street

It's frustrating to environmentalists, who say it's essential to keep people out of this region.

Aznar t-17/9:48:26 It's complete anarchy. there are urban planning policies but they haven-t worked. This policy is demagoguery. Every day we see that they are building settlements in zones that are forbidden because there are no firm measures to stop it. there is not even a master plan for the city to stop it. It's unfortunate.

Yo creo que la ciudad ya se desbordo. Es una anarquía absoluta. a pesar de que hay programas de reordenacion urbana, esta realmente no funciona. Esta politica es demogogica. Todos los dias emos

que estan habiendo asentamientos en la zona donde no pueden de ningun manera construir, porque no hay medidas contundentes para pararlo. No hay un proyecto para pararlo, desfortunadamente.

boat of farmers in xochimilco

tilt of farmer working

martinez talks with construction workers

man welds

man grinds weld

Martinez t-9/23:47 The growth of the city is hard to stop. It would be impossible and absurd to think that you could stop the growth. what we have to do is regulate that growth. And growth has to be vertical. We can't keep on invading the green areas of this valley. 24:11

El crecimiento de la ciudad es difícil detenerla. Sería imposible y sería absurdo pensar que se va a detener el crecimiento. Lo que tenemos que hacer es regular ese crecimiento, y el crecimiento tiene que ser vertical. No debemos seguir invadiendo las áreas verdes de este valle.

Wilk at computer

Authorities say its difficult to keep squatters from taking over vacant lots...

...but some land has been protected from urban sprawl by putting it to productive use as farms.

Officials like Juan Manuel Martinez say the city needs high rise apartments, so that growth can go up instead of out.

And urban planners like David Wilk say the city needs a heightened awareness of the water cycle on which it depends.

Wilk t-19/5:23 The urban population lives very separated from the natural world, as we all know. the most valued concepts of the natural world, such as rivers and lakes, practically don't exist in an urban conglomeration of this type. and thus we don't have a reference as to the value of this natural resource.

La poblacion urbana vive muy desarraigada de lo que es el medio natural, como ya lo sabemos; los conceptos mas apreciados en el medio natural como pueden ser los rios, los lagos, practicamente no existen en una aglomeracion urbana de este tipo, por lo tanto no tenemos una referencia al valor de este recurso natural.

Music

washing car

watering bushes

street scene of people

traffic

DISSOLVE to Bertha at tambos

DISSOLVE to beauty shot of
xochimilco

In one sense, Mexico city does not have a water supply problem, it has a water demand problem.

And planners have gone a long way in managing that demand.

But the city continues to grow at a staggering pace...more than half a million new residents every year.

As long as that growth keeps up, officials will face an almost impossible predicament...

Improving water service for people who desperately need it...

...while living within the limits of nature.

END

Host
Vignette C (between Mexico and New Zealand)

Music Cut 3 Base shot of river commerce on Nile and Ganges...shots of water being used in business, etc. Crawl: Water Wars

Water is vital to economic security...some experts predict it will become more important than oil, and eventually countries may go to war over water.

host on camera

As the world's population grows, and we improve our standard of living, the risk of a water war could increase.

Nile shots

In fact, Egypt has *threatened* war if Ethiopia ever blocks the Nile River by building dams upstream.

West Bank shots

In the Israeli-occupied West Bank, control of water is a major issue in Middle East peace talks.

Host on Camera:

And there's another kind of water conflict...not between people, but between the needs of people and the needs of nature.

Fish, birds and animals depend on water... but throughout the world, we often forget wildlife when deciding how our rivers and lakes should be used.

It has even happened in New Zealand, a country with a "clean and green" reputation.

Reporter Peter Llewellyn shows us what can happen when a country becomes too dependent on hydroelectric dams.

WATER NEW ZEALAND SEGMENT

Update LLEWELLYN/FITZPATRICK 7/14/94

SPRING-LIKE MUSIC

AERIALS OF SNOW CAPPED PEAKS

NEW ZEALAND IS THE LAST PLACE ON EARTH YOU'D EXPECT TO FIND A SHORTAGE OF WATER.

GLACIER AERIAL

SOME OF THE HEAVIEST PRECIPITATION IN THE WORLD FALLS HERE....CREATING SOME OF THE WORLD'S BIGGEST GLACIERS.

NEW ZEALAND HAS ABUNDANT RIVERS THAT, LIKE THE WORLD OVER, ARE THE LIFE BLOOD OF THE NATURAL ENVIRONMENT.

MUSIC CROSSFADES...

LOW SHOT LOOKING UP
AT DAM

BUT OVER THE PAST 50 YEARS, NATURE'S ENERGY HAS BEEN HARNESSSED HERE BY AN EXTENSIVE SYSTEM OF HYDROELECTRIC DAMS.

DAM FOOTAGE

RIVERS THAT ONCE FLOWED UNINTERRUPTED TO THE SEA, NOW CASCADE THROUGH GIANT TURBINES.. TO PROVIDE 60-PERCENT OF NEW ZEALAND'S POWER.

TO MANY PEOPLE THESE DAMS HELD THE PROMISE OF *LIMITLESS* POWER. CLEAN. RENEWABLE. AND FREE.

BUT THE REALITY IS THAT NOTHING COMES FOR FREE: THE DAMS HAVE TAKEN A TOLL ON NEW ZEALAND'S ENVIRONMENT.

MUSIC FADES OUT...

BIRD SHOTS

HARDEST HIT ARE NEW ZEALAND'S UNIQUE BIRD POPULATIONS.

THE HYDRO DAMS HAVE DRAMATICALLY CHANGED THEIR HABITAT.

BIRD TAGGING

THE DAMAGE IS SO SEVERE THAT SOME SPECIES ARE ON THE BRINK OF EXTINCTION.

WARREN: THE ONES WE ARE MOST CONCERNED ABOUT ARE THE BLACK STILTS, WHICH ARE ENDANGERED DOWN TO THE LAST 100 BIRDS. RYE BILLS DOWN TO THE LAST 3000 BIRDS. AND BLACK FRONTED TERNS. NOT SURE--ABOUT 10-THOUSAND OF THEM LEFT NOW.

STILTS IN WATER

THE BLACK STILT NEED OPEN GRAVEL BANKS IN ORDER TO SURVIVE.

THAT'S BECAUSE ON *OPEN* LAND, PREDATORS HAVE NO COVER TO SURPRISE THESE GROUND NESTING BIRDS.

TWO SHOT WALKING

NORMALLY, SPRING FLOODS WOULD SWEEP RIVER BANKS CLEAR OF VEGETATION, KEEPING THE RIVER SAFE FOR BIRDS TO NEST.

BUT SPRING FLOODWATER IS NOW STORED IN RESERVOIRS OR DIVERTED TO CANALS FOR HYDRO GENERATION.

WARREN: WE LOST ABOUT 40 KILOMETERS OF RIVERBED THROUGH FLOODING AND THE CREATION OF DAMS, AND ABOUT ANOTHER 85 KILOMETERS OF RIVERBED THAT WAS DEWATERED EITHER PARTIALLY OR TOTALLY THROUGH THE DIVERTING THE WATER INTO CANALS. Q: IS THAT A MAJOR PROPORTION OF THE HABITAT? A: YES, THAT IS A VERY SIGNIFICANT PROPORTION OF RICH RIVER BED. YES.

STANDUP: TOURISTS TRAVELLING THROUGH THIS PART OF THE COUNTRY OFTEN STOP AND MARVEL AT THESE BEAUTIFUL STANDS OF WILD LUPINES. BUT TO THE CONSERVATION OFFICERS THEY ARE A DISASTER. WITHOUT THE NATURAL FLUSHING OF SEASONAL FLOODING, THE LUPINES CONSOLIDATE THE ISLANDS IN MID STREAM. AND THEN THE WILLOWS, ANOTHER IMPORTED PEST BECOME ESTABLISHED. THESE DEEPEN, CONFINE AND DIVERT THE WATER, AND GIVE COVER TO PREDATORS.

HELICOPTER SPRAYING
NATS BRIDGE

THE SITUATION HAS BECOME SO DESPERATE, THAT THE DEPARTMENT OF CONSERVATION, KNOWN AS DOC, IS SPRAYING HERBICIDE TO KILL THE LUPINES AND WILLOWS.

WARREN: THEY'RE DISASTROUS FOR THE BIRDLIFE. THE BIRDS ARE BECOMING THREATENED THROUGH LOSS OF HABITAT AND DOC'S JOB IS TO PRESERVE THE BIRDS FROM BECOMING EXTINCT.

MORE AERIAL SPRAYING

WHILE MANY NEW ZEALANDERS ARGUE THAT THE LOSS OF NATURAL HABITAT IS THE PRICE YOU PAY FOR POWER...

...MANY OTHERS ARE WONDERING IF HYDROELECTRICITY IS WORTH SPRAYING THE NATION'S BANKS WITH POISON.

AND SO, HYDRO PLANNERS HAVE BEEN PRESSURED TO RE-THINK THE WAY NEW ZEALAND USES ITS WATER RESOURCES.

TWO SHOT

MARK FRANCE IS A SPOKESMAN FOR THE POWER MANAGEMENT COMPANY, ECNZ.

FRANCE: THERE WAS A BELIEF THAT WE COULD

ENGINEER OUR WAY OUT OF ANY DIFFICULTIES. I
THINK NOW IT'S BEEN REALIZED THAT THERE IS A
LIMIT ,THAT WE SHOULD WORK WITH NATURE NOT
AGAINST IT.

HISTORICAL FOOTAGE/MUSIC

HOWEVER, "WORKING WITH NATURE" WAS
FAR FROM THE MINDS OF POST-WAR ENERGY
PLANNERS...

....AND EVEN TODAY, ECONOMIC PRESSURE
MAKES THIS A DIFFICULT PROMISE TO KEEP.

(PAUSE FOR A MOMENT)

WHEN THE HYDRO SYSTEM WAS BUILT, IT
BROUGHT A BOOST TO EMPLOYMENT AND
INDUSTRIAL PRODUCTIVITY.

THE DAMS WERE SYMBOLS OF PROGRESS AND
NATIONAL PRIDE.

HISTORICAL NARRATOR: IN THE COUNTY'S
DAMS AND GENERATING STATIONS, BENMORE
IS THE GREATEST.

HISTORICAL FOOTAGE

HISTORICAL NARRATOR: FINALLY IN MAY 1965,
THE 48-MILLION POUND ENGINEERING ACHIEVEMENT
WAS READY FOR OPENING BY THE PRIME MINISTER,
MR. HOLYOKE.

B/W SHOTS/SUBSTATIONS

IN THOSE DAYS , THE ELECTRICITY
GENERATING SYSTEM WAS RUN BY A
GOVERNMENT DEPARTMENT.

THE OUTPUT OF THE HYDRO SYSTEM WAS

BALANCED BY OIL AND COAL GENERATION DURING THE SPRING AND SUMMER SO THAT STORGE LAKES COULD BE RECHARGED BY MELTING SNOW.

STOCK SHOTS OF FACILITIES

SINCE THEN, NEW ZEALAND HAS BECOME MORE AND MORE RELIANT ON HYDROELECTRICITY.

THAT'S BECAUSE THE SYSTEM HAS BEEN CONVERTED FROM A PUBLIC-SERVICE DEPARTMENT, INTO A PROFIT-SEEKING ENTERPRISE.

AND DECISIONS WERE MADE TO CLOSE FOSSIL FUEL STATIONS...BECAUSE IT IS A HARD ECONOMIC FACT THAT IT'S CHEAPER TO MAKE ELECTRICITY FROM HYDRO THAN FROM OIL AND COAL..

EERIE MUSIC AGAIN

THAT IS, IF THERE'S ENOUGH WATER IN THE RESERVOIRS.

IN 1991, THE SPRING RAINS FAILED.

WITH THE SYSTEM UNBALANCED, THE ENERGY INDUSTRY AND THE WHOLE COUNTRY WAS THROWN INTO CHAOS.

NEWS MUSIC OPEN: THE COLD EDGE OF WINTER HITS, THE POWER CUTS HAVE ALREADY STARTED. ONE NETWORK NEWS WITH RICHARD LONG AND JUDY BAILEY. GOOD EVENING, IT RAINED IN THE SOUTH ISLAND TODAY. BUT FAR FROM WHERE IT WAS NEEDED, FAR FROM WHERE IT COULD AVERT A NATIONAL CRISIS. SO TODAY ELECTROCORP ACTED. IT DEMANDED A 10-PERCENT REDUCTION IN CONSUMPTION, TWICE WHAT THEY WERE ASKING FOR TWO DAYS

AGO. BEGINNING NEXT WEEK, SEVERAL MAJOR POWER BOARDS WILL IMPOSE HOME WATER HEATING CUTS FROM SEVEN IN THE MORNING UNTIL AFTER MIDNIGHT. THAT WILL MEAN JUST ONE TANK OF HOT WATER EACH DAY.

OLD PEOPLE WITH SPACE
HEATER/ POT ON STOVE

NEW ZEALANDERS WERE QUICKLY LEARNING THAT MANAGEMENT OF THE NATION'S RIVERS HAVE A DIRECT EFFECT ON THEIR LIVES.

PEOPLE IN COATS WALK IN STREET

THE GOVERNMENT ANNOUNCED A STATE OF EMERGENCY AS THE WINTER COLD STARTED TO BITE.

NEWS GRABS..TEMPERATURES ARE DROPPING AS LOW AS TWO AND THREE DEGREES. MAN: I THINK WE'RE GOING TO BE QUITE A BIT COLDER IN CHRISTCHURCH AND SOUTH FOR A WHILE TO COME YET. WOMAN: JUST HAVE ONE BATH BETWEEN ME AND MY DAUGHTER. OLD WOMAN: I TURN ON MY BLANKET FOR ABOUT TEN MINUTES AND THEN I TURN IT OFF.

LOW RESERVOIRS

THE LIMIT OF THE ENVIRONMENTAL RULES HAD BEEN REACHED AND THE CHOICE HAD TO BE MADE TO SACRIFICE ENVIRONMENTAL PROTECTION IN A TIME OF CRISIS.

ENGINEER-TYPES WITH
COMPUTERS AND GRAPHS, ETC

FINALLY ON THE ADVICE OF POWER PLANNERS, THE GOVERNMENT SUSPENDED ENVIRONMENTAL RULES SO THE LAKES COULD BE DRAWN DOWN FURTHER STILL.

BRIDGE LIGHTS GO OFF

ECNZ'S CHIEF EXECUTIVE SAID THE COUNTRY SHOULD PRAY FOR RAIN AS THE POWER WENT OFF.

FRANCE: I SUPPOSE THE SYSTEM WAS TRIPPED UP BY A SEQUENCE OF LOW FLOWS THAT IT WAS NOT DESIGNED TO COPE WITH. THE SYSTEM WAS DESIGNED TO COPE WITH LOW FLOWS THAT YOU'D EXPECT ONCE IN 20 YEARS. THE EVENT WE GOT WAS MUCH MORE RARE THAN THAT-- THERE WAS NO WAY THE SYSTEM COULD COPE.

TWO SHOT WALK AND TALK

(

BUT OTHERS SUSPECTED THE WEATHER WAS ONLY PART OF THE STORY.

SHEEP FARMER BRUCE SCOTT THINKS ECNZ WAS GENERATING HYDROELECTRICITY AT A LEVEL NATURE COULD NOT SUPPORT.

SCOTT: THERE'S NO QUESTION. THERE'S SOMETHING GOING ON WITH OUR WEATHER PATTERN CHANGES, PARTICULARLY IN THE LAST THREE YEARS. GOODNESS ME, THIS IS THE THIRD OCTOBER/NOVEMBER IN A ROW THAT WE HAVEN'T HAD NOR-WEST RAINS. THAT ON ITS OWN IN MY OPINION JUSTIFIES THE POWERS THAT BE TO HAVE A VERY GOOD LOOK AT THE MANAGEMENT OF THESE LAKES, 'CUS THE WEATHER PATTERNS ARE CHANGING.

SITTING TWO SHOT

AND METEOROLOGIST NEIL CHERRY THINKS ECNZ MADE THE PROBLEM WORSE...BY RELYING ON HYDRO DAMS INSTEAD OF COAL GENERATING PLANTS, WELL INTO THE DROUGHT.

CHERRY: THE INTRIGUING THING I FOUND IN RETROSPECT, BECAUSE I WAS ANALYZING IT, WAS THAT THEY WERE USING THESE LAKES ALL THROUGH THAT SUMMER, EVEN THOUGH THE LAKES WERE LOW LIKE THIS. AND IT WAS THE END OF THE FINANCIAL YEAR WHEN THEY WENT BACK TO NORMAL

GENERATING CONDITIONS. NOW THAT RAISES MY SUSPICIONS: WAS IT THE FINANCIAL SITUATION THAT WAS DRIVING THEM TO USE CHEAP HYDRO AND NOT EXPENSIVE THERMAL.

LOW RESERVOIRS

THE SUSPICIONS WERE NEVER PROVED, BUT A GOVERNMENT INQUIRY SUGGESTS THAT NEW ZEALAND SHOULD NOT BE RELYING SO HEAVILY ON HYDRO THAT A RARE DROUGHT COULD CREATE A CRISIS.

SO THE QUESTION REMAINS: CAN IT HAPPEN AGAIN? WILL NEW ZEALAND MANAGE ITS HYDRO SYSTEM IN A WAY THAT PROVIDES CHEAP POWER... WITHOUT DAMAGING THE ENVIRONMENT?

PART OF THE ANSWER LIES IN THE THE NEW RESOURCE MANAGEMENT ACT, WHICH IMPOSES A NEW WORD FOR POWER PLANNERS TO LIVE BY: SUSTAINABILITY.

FRANCE: WHAT IT DOES IS REQUIRE A BOTTOM LINE. THAT THE EFFECTS OF ANY USE BE SUSTAINABLE. SUSTAINABLE IN TERMS OF THE NEEDS OF FUTURE GENERATIONS; SUSTAINABLE IN ECOLOGICAL TERMS; SUSTAINABLE IN TERMS OF WHAT THE COMMUNITY VALUES ARE FOR THAT WATER USE; AND AT THE SAME TIME, SUSTAINABLE FROM THE POINT OF VIEW OF THE NATIONAL BENEFIT OF HYDROGENERATION.

LOW RESERVOIRS

IT WILL BE A DIFFICULT BALANCE TO MAINTAIN, BECAUSE THE SEEDS OF FUTURE CRISES ARE ALREADY IN PLACE.

STANDUP: THE GLACIAL FED LAKES OF PUKAKI AND TEKAPO ARE THE STORAGE TANKS FOR THE COMPLEX PLUMBING OF THE HYDRO SYSTEM. IN A NORMAL YEAR THE LEVEL OF LAKE PUKAKI HERE WOULD BE 40-

FEET ABOVE MY HEAD. ENOUGH WATER TO POWER THE WHOLE COUNTRY FOR OVER THREE WEEKS. THIS YEAR, LIKE LAST, LAKE LEVELS ARE PRECARIOUSLY LOW.

PEOPLE/POWER SHOTS

DURING THE LAST HYDROCRISIS, NEW ZEALANDERS WERE ABLE TO TAKE EXTRAORDINARY STEPS TO SAVE ELECTRICITY...IN SOME PLACES AS MUCH AS 20-PERCENT.

AND ALL NEW ZEALANDERS BECAME A LITTLE MORE CONSCIOUS OF HOW SAVING POWER ALSO MEANS PROTECTING THE NATURAL SYSTEMS ON WHICH POWER GENERATION DEPENDS.

MONTAGE

THERE WILL BE MORE DROUGHTS, BUT NEW ZEALAND HAS LEARNED SOME HARD LESSONS ABOUT RELYING TOO HEAVILY ON HYDROELECTRICITY FOR POWER.

AND ALTHOUGH THE COUNTRY HAS PAID AN ENVIRONMENTAL PRICE FOR ITS HYDRO...

...GIVEN THE ALTERNATIVES OF FOSSIL FUELS OR NUCLEAR, PERHAPS IT IS THE LESSER OF THE EVILS.

HOWEVER, WHAT IS CLEAR IS THAT SUSTAINABLE MANAGEMENT OF THE SYSTEM CANNOT RELY SIMPLY ON A PRAYER FOR RAIN.

Host Close

No music...

Host on Camera

It's important for both the environment
and our economic well-being to
conserve the world's water supply.

We can't afford to wait any longer.

Remember this: water is the
fundamental building block of life. There
is no substitute.