How to Create a Desert in 140 Years

Posted on August 5, 2015 by Brian Wilford

When Trevor Wicks came to Oceanside from Alberta in 1980, he fell in love with the wet, lush green of the temperate rainforest. Even in the depths of summer, the morning dew would rise in the warm sun, clouds would form in the afternoon sky and a summer shower would grace the close of day. “There were many wetlands and swamps,” says Wicks. “The creeks were flowing.” The entire Springwood-Maple Glen area, almost all of western Parksville, was a giant wetland, cut by Romney and Carey creeks, and full of bullrushes and willows.

But Trevor and his wife Eileen weren’t the only ones smitten by the east coast of Vancouver Island. With hundreds and soon thousands of people moving to the area, drainage ditches were dug, fill trucked in and creeks buried in pipes to make way for tidy subdivisions.People thought they were making a retirement and vacation paradise, says Wicks, a consultant with Trentec Innovations who has studied hydrological systems around the world, but what they were creating was another Easter Island.

Famous for its giant stone statues, Easter Island, 3,500 kilometres (2,180 miles) off the coast of Chile, was once lush and tropical, supporting a population of some 15,000. Today, supporting a population a third of that, it’s largely a barren, rugged, windswept grassland. “Somebody cut the last tree on Easter Island,” Wicks says. “Easter Island, the Mayans, Egypt, Myanmar all had amazing civilizations until human activity changed the hydrology.”

Starting with the pioneers, he says, “We’ve logged the hillsides and drained the land because we don’t want puddles in our yards. We’ve paved and built so there are no permeable surfaces.“We’ve created these artificial areas of extreme drought, like a desert. “It’s a lose-lose cycle: How to create a desert in 140 years.”

We can irrigate crops by drawing groundwater, he says, but that draws down the groundwater level and then the plants can no longer reach the water on their ow“Nothing in nature takes groundwater,” Wicks says. “We seem to take it for granted that we can drill wells — in California they’re drilling them over 2,000 feet deep — but it cannot continue without creating a desert.”

These days in Oceanside, the morning dew is sparse and scattered, in many places non-existent, Wicks says, and so summer showers have become welcome, rare events. “These bright-blue summer skies without a cloud in sight, we rarely used to get these, and certainly not day after day like we see now,” he says. “You wonder why there aren’t any clouds? It’s because we’ve disturbed the hydrological cycle.

“The temperate rainforest has become a semi-desert climate like California.” But the effects on the Oceanside micro-climate, as with other micro-climates on the east coast of the Island, don’t stop there. “There’s a compounding effect,” Wicks says: Less rain, more heat, more wind, less moisture, less vegetation, longer summer, more heat, more wind, lower groundwater, depleted soil, well, you see where this is going. “The trees die off, there’s no shade, no transpiration, and you create a desert. It’s toast for a long time.

“You think it’s hot this summer? We ain’t seen nothing yet in terms of temperature. Part of why we’re not there yet is because of the rainforest’s legendary trees.

Unfortunately, many of those trees are dead or dying, Wicks says. “There won’t be hardly any of these big trees in residential areas in 10 or 15 years.” It could also happen more quickly, he says. “One big fire could be absolutely devastating. (The trees) couldn’t be replaced. It would take hundreds of years.” The towering conifers may look fine but, if you look at the tops, he says, there’s no bright-green new growth. “They’re already in the process of dying,” Wicks says. “It’s a matter of time. “Nearly all the Western Red Cedars are gone or are on their way out.”

Even larger forested areas, like the Heritage Forest in Qualicum Beach and Rathtrevor Provincial Park, are suffering, he says, the trees unable to reach sufficient water and nutrients. “It’s stunning to see the loss of green in the forest canopy,” he says. “Now you can see through the canopy. It used to be completely covered.” The loss of cover, of course, means less shade, more heat, more dry wind and so on. The winter rains just run off the hard ground.

There are things that can be done, Wicks says. “We should be planting (semi-desert-loving) trees around here like crazy to replace the ones that are dying.” And we should stop taking groundwater, he says, and instead start digging holes to hold rainwater. But he doubts we will. “It’s a strange situation,” Wicks says. “We think we are smart but we don’t see the long term situation.

“The shame is that we live in a perfect situation. Anywhere in the world would be envious of us but we haven’t learned to manage the ecosystem. “We’re as short of water here as they are in Arizona, where they get four inches of rain a year. It’s absurd.”