WATER CATCHMENTS — SOUTH WEST RECOVERY PROGRAM

Amendment to Motion

Resumed from an earlier stage of the sitting.

The PRESIDENT: I indicate to members that 11 minutes remain for this debate.

HON MATT BENSON-LIDHOLM (Agricultural) [5.35 pm]: Prior to question time I was quoting from a Department of Water document entitled "Water resource recovery catchments", and I was making the point that this program is the primary focus of the department's salinity management program. Certainly, given the increasing emphasis on this issue over the years by particularly the Gallop and Carpenter governments, I think that it is probably well worth finishing quoting from the information that I have in front of me. After that, I will briefly finish with a comment about salinity levels in the Collie River. I think I posed that question to Hon Giz Watson. I will then wind up my comments. I think I was at the point of referring to the salinity situation statement. The document states —

> **The Salinity situation statement — Collie River is the report of the study that reviewed data and modelled the effects of various reforestation scenarios, perennial pasture and engineering options. It details the past and current salinity situation of the Collie catchment and sets out a mix of plantation, groundwater pumping and river diversion options for attaining (or nearly attaining) the target of drinking quality water in the Wellington Reservoir by 2015.**

I think that figure was about 500 parts per million. I will read out the key conclusions of the study, which I think further emphasises the need to accept this motion. The document continues —

> **Key conclusions of the study were:**
>
> the salinity of water into the Wellington Reservoir is stabilising …
>
> nearly three-quarters — about 73% — of the salt load into the Wellington Reservoir comes from just three of the eight Management Units of the catchment — the Collie River-East, Collie River-South and James Well …
>
> reductions in stream salinity are expected once all the existing and planned plantations have been fully established
>
> there are feasible options to reduce the inflow salinity of the reservoir to drinking water levels and
>
> the full effects of reforestation treatments can be expected within 10 years from commencement.

It concludes by stating —

> **The farming community and agency representatives making up the Collie recovery team will use the scientific conclusions to assess the environmental, economic and social impacts of the options before implementing selected salinity reduction activities.**

That statement was made a few years ago, and I believe that things have moved on from there and that those programs are in place.

As I said, I asked a question about salinity levels in the Collie River. I have some figures with me, albeit a little ancient, but the figures quoted are certainly around 1 500 milligrams per litre. However, I also note that there are figures for the Moore River of 7 200 milligrams per litre and for the Avon River of 6 700 milligrams per litre. Obviously, those figures will change the closer it is to the mouth of the systems. However, they are certainly compelling statistics for people who live in those parts.

Finally, I will draw my speech to a conclusion. For all the reasons that I have mentioned—the economic, social and environmental sustainability issues—I still believe that more needs to be done. Governments have more and more addressed these issues of salinity, water flows and, dare I say it, climate change. The Gallop and Carpenter governments certainly had plans in place, but obviously, with a new government, more needs to be done. I will leave it at that point by saying that I certainly support the motion.

HON PHILIP GARDINER (Agricultural) [5.39 pm]: My colleague Hon Colin Holt will address this motion in more detail in due course, should the debate continue. In the interim, I will give some observations on an attempt to heal the salinity problem that I have on my farm in Moora.

I agree very strongly with the sentiment of this motion. As far as the detail is concerned, I favour the amendment because this is much more than just a forestry issue. Whatever is causing the way climate is occurring, be it us or sunspots, the changes that we are seeing now have caused a different form of run-off where I live from what we have seen in the past, bearing in mind that I live north of Great Eastern Highway, rather than south of that highway, where the catchment areas that are the subject of this motion are located. However, the problems experienced in both areas have similarities.

Salinity is a complex area. As I said in my inaugural speech last night, there is not one solution that fits all and that is the reason that the forestry solution to this catchment problem is not the only solution. There are a number of parts to it and my colleague Hon Colin Holt will cover them.

The rainfall patterns occurring where I live cause the rain to come in one quick fall, and the only option is for that water to run off into the streams and rivers. In the case of steady rainfall, the water sinks into the ground and goes into the underground water catchment. It then builds up the watertable, leading to an elevation of that watertable and a salt accumulation on the ground surface, causing a saline problem.

Agricultural patterns have changed significantly over recent times. The most significant change is that we are not running the land so much for stock, but for grain. The great technological change in the grain business is that farmers are either no-tilling or minimum-tilling their land. Minimum till and no till means that the soil is being cultivated in a way that the water sinks into it so that the cropping plants that farmers sow can absorb the water, especially when that water is very scarce. The water is retained in what we call the recharge area, which is the area to which Hon Giz Watson's motion refers. The more water that is retained through the use of minimum-till and no-till technology, the better the soil can grow the crop or pasture. The soil will hold the water in the top 10 to 20 centimetres more readily than it did in the past. For a start it improves the soil structure.

An ideal soil structure is that which is in a colloidal state so that the air spaces and water spaces can be transferred in and out and the water is retained. By using full-cut tillage, which is the method that was used in the past, the soil structure loses its strength and the soil becomes loosely aggregated and has no retention capability. Minimum till also improves the organic carbon, to which Hon Matt Benson-Lidholm referred. The organic carbon serves to not only add to the soil structure, but also allows the retention of nutrients in the soil.

The irony about all of this is that if we had the old technology, whereby the rain came on to the full-cut cultivation of the soil, the water would tend to run off, creating erosion, and the water would run into the streams and rivers and down into the catchment areas. For a start, we have a dilemma; that is, modern technology is actually retaining the water. If it is retaining that water in the recharge area and the plants do not use it, it goes into the watertable.

We cannot put all that land back to forestry because it is food-producing land, unless we find that the cost of not having water far outweighs the cost of not having food. This land in the recharge areas will have the water absorbed out of it only if almost the whole lot is planted back to forestry. The agricultural land will go and the food production will fall at a time when the availability of food is becoming increasingly concerning. If we are to find a solution for the recharge area, we must think of things beyond forestry, and they exist. Perennial plants with deep roots can absorb that watertable. Lucerne is an example of a plant that puts its roots down at least a metre. Lucerne can also be planted in the recharge areas.

On my farm in Moora we grow lucerne in an area that is really too dry for it. It is much more productive to grow annuals, unless we genetically change and improve the ability of lucerne to grow in the dryland areas. The reason we are growing lucerne is that a metre underneath our land the water is like brine. It is so strongly salted. We are taking a defensive measure. We have only about 30 hectares of lucerne, but the salt has not been lifted to the surface. We are winning that battle. I suspect that in the recharge areas of the south west, instead of thinking forestry we have to think outside that envelope and look to other alternatives that are available. Another plant we grow is saltbush.

A real possibility for the south west is the oil mallee culture, which both sequesters carbon, assuming that we have a carbon price that makes that worthwhile, and provides biomass for small local power stations. The cost of transporting biomass from oil mallees is too great to cart it too far. Oil mallees are planted not as a forest, but in alleys. Between the alleys farmers grow their crops. The food production is preserved and there is an avenue for stopping that water from going into the watertable. What I do not know is whether oil mallees planted in 30-metre avenues will be enough to prevent that water from going into the watertable.

At the end of the day, the reason there is salt downstream is that there are salt plains in different parts of the watercourse, which gets increasingly saline. Alternatives are available to try to hold that water at a level that it does not go into the watertable and cause the watertable to rise to produce the saline conditions downstream.

On our property we have piezometers. A piezometer is a hole in the ground down which a pipe is inserted, through which samples of water can be drawn to measure the concentration of the salt and the level of the watertable at different times of the year. We used to take samples on my farm, but, unfortunately with competing pressures of time, I have recently omitted to collect samples to measure the water and its depth. In the four or five years that we were doing it, it was interesting.

Debate adjourned, pursuant to standing orders.