

CASE STUDY: John and Pam Mitchell, Chelwood Farming Pty Ltd, Mintaro

INSTALLING a low flow bypass device on a 25 megalitre dam about 20 years ago ensures that John and Pam Mitchell, Mintaro, continue to deliver beneficial environmental flows further down the catchment.

The couple, who farm with sons Andrew and David, crop about 2000 hectares alongside 2800 Merino ewes and 24 hectares of riesling, cabernet sauvignon and shiraz vines.



The dam, and the bypass device, were installed to help irrigate the vineyards when they were first planted in about 2003-04.

"Having the bypass is a condition of our water licence," John said. "It allows us to access water for drip irrigation for the vineyards."



The first device was recently upgraded to a more reliable system.

"The first bypass was very basic, made of bricks, with a concrete base underneath and two 50 millimetre pipes going through it to allow water to flow through," John said.

"Water could flow at a rate of about four litres a second, with the first flows diverted down the catchments. This first flow is possibly saline, so I don't miss it."

The current bypass, recently completed in early-2016, has a concrete "weir-like" base which water flows over, with two 50mm pipes before the weir to divert low flows into the creek that flows past the dam. Water then flows onto large rocks before flowing into the dam or the creek which bypasses the dam.

A pipe is also installed two-thirds up the dam bank wall, which releases additional water.

"It cost us a good \$5000 at least to build," John said. "But hopefully it's a once-off and by spending this money it will be much easier to maintain than the previous device which was washed away after heavy flooding."



John was matter-of-fact about the bypass.

“We need it to comply with licensing and we need the water licence for our business,” he said. “It’s not an issue, once it’s there, it’s there and it’s not a problem. We have to work with it because it’s part of the regulations.”

A third generation farmer, John said they used sustainable methods on-farm such as direct drill sowing, retaining and maintaining stubbles and growing legumes, and the bypass device worked well within this system.

“We try and do what we can do to run a sustainable enterprise,” John said.



“Without a doubt, farming has changed significantly since I came home from school in 1965. Back then it was cultivate, cultivate, cultivate when it came to cropping but nowadays stubble retention, and using gypsum and lime has enabled us to produce more and look after the soils.

“The technology we have, as well as the genetics in the livestock industry, with

Australian Sheep Breeding Values, we’re right into that.”

John said their average rainfall was less than it used to be.

“On average we have less rainfall during the growing season, we don’t get the spring rainfall we used to,” he said.

“We have fewer rain events during spring and summer, but when it does rain it may be a higher total than previously. It is generally a bigger rainfall event, which even with stubble retention leads to bigger runoffs, so the bypass device works in well with this.”