

Q&A: Better irrigation pump screens save money and time

Question #	Question	Answer(s)
1	How long will these last. How frequently do they need to be replaced?	Peter mentioned a 25yr lifetime depending
2	What is the typical/maximum flow velocity through the screens?	The velocity through the screen must be reduced to 0.15 m/sec or less. This velocity is reduced but the amount of water and rate its diverted doesn't change. That can be achieved by increasing the surface area of the screen as discharge increases. Multiple screens can be used side by side to screen any size diversion
3	What are some of the questions remaining for fish screens, Are their opportunities for further improvement?	We need to keep innovating to keep the cost of screens down, we are doing the work in order to prioritise where it makes most sense to invest in screening, where we will get the biggest bang for buck. So in Australia we are working on a prioritisation method and diversion screening strategy
4	Do the panel have any comments on the effectiveness of fish screens in excluding bryozoa from pipelines as that continues to be an on-going issue for River Murray water users in SA.	Good question, given their size i'd suspect it would be difficult if not impossible to screen them out of pumps. Something I need to give some more thought to. Thanks for the great question
5	Peter, good presentation and good technology for run-of-river installations. How do you go about dealing with "dead-end" water channels where debris does not get a chance to move-on from off the screens.	These will often need to include a bypass where a flow sweeps past the screen and is piped back with fish to the river
6	Excellent show, are these screens are not stopping flow of organic matters, which enhance soil fertility - Islam ul Haque, PhD- from Pakistan	Any particles less than 2mm in size are still getting through.
7	I imagine that eggs and larval stage fish could still be drawn through the screens - what other measures can be taken to protect fish at this life stage?	We've done the research on Murray cod larvae to demonstrate that if we get approach velocity down to 0.1 m/sec these screens still offer excellent protection for larvae regardless of mesh size. Most of our larvae are not totally passive drifters, they have the ability to actively drift and swim
8	How robust are they? On coastal rivers the floods can come quickly and are fast flowing with large debris, can they handle this?	They use these screens in the Pacific Northwest where they deal with volcanic sediment through to large boulders. In NSW we are often building these screens so they can be retracted during flood. But our feeling is they are probably safer left down the bottom of the channel where velocity is the least
9	Is there a commercial opportunity for a third party to install these at their cost to eliminate any risks to irrigators that might inhibit uptake. This third party could claim biodiversity credits and charge an operation fee to the irrigation business based on a portion of observed savings in labour and energy costs?	That's a great idea
10	Ian what dollar positive impact is it for you?	live answered
11	What is the cost range of the screens? (Stainless steel wedge wire isn't cheap.) Is there a rule of thumb for sizing the screens based on aperture size and shape, flow rate etc.? Have there been any problems with boat traffic or other recreational activities?	No issues so far with rec fishers and boating, quite often less impact to the river users than traditional pumping styles.
12	Considering the on-farm efficiencies, how long does it take before these screens pay for themselves?	live answered
13	Are there possible tax advantages from installing screens in Australia? Also Re ESG, are businesses using screens as part of formal reporting requirements to demonstrate their corporate social responsibility and social license?	live answered
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15	Has anyone approached Grampians Wimmera Mallee Water, re-their pipeline water delivery that runs year round for the fitting of pump screens	Hi Rob, this would be a good one to raise with the Australian Fish Screening Advisory Panel for discussion through the Vic Rep Justin O'Connor
16	Pardon my ignorance, what does ESG stands for?	Environmental, social and governance

17	What is China up to on screens - given their economic capacity to invest I wonder if they are interested in our screening solutions.	Not sure
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