

Griffith University
Animal Ethics Manual – Wildlife

STANDARD OPERATING PROCEDURES

SOP No: W-3

SUBJECT: Euthanasia of Fish.

POLICY: The procedure should be compatible with the scientific or educational aims of the activity¹.

Practices must ensure rapid loss of consciousness¹.

PRECAUTIONS: Operator safety.

EQUIPMENT: Recognised treatments (ice slurry), or fish narcotics (e.g. Clove oil, Aqui-S, MS222 or Benzocaine), that rapidly induce euthanasia (NHMRC 2013). Holding container (as appropriate for fish size- as proposed in Ethics Application)

PROCEDURE:


1. Ice Slurry – The ice-slurry mixture can be made from an approximately 50/50 mix of ice and water (collected from the environment fish were captured). This ratio is only a guide and more or less ice may need to be added with a target temperature between 0 and 2°C (Van De Vis *et al.*, 2003). The ice in the holding container should be held back by a spatula (or similar tool) to enable fish to be properly immersed in the liquid. Fish should be monitored until cessation of opercular movement occurs (McFarland & Klontz, 1969; Kestin *et al.*, 2002). It is recommended fish be left a further minute to ensure death has occurred (Blessing *et al.* 2010).
2. Narcotics – the particular narcotic mixture can be made into a holding container as per recommended by the manufacturer (e.g. see Barker *et al.*, 2002) and fish introduced. Alternatively for highly water miscible chemicals such as Aqui-S the stock solution can be dripped into the fish holding tank (after capture) until the required dosage is reached. The dosage rate will vary among species and ages within species and this will need to be accounted for. Fish behaviour should be monitored as per 1

with fish also left in the solution for a further minute for certainty of death.

RECOMMENDATIONS:

APPROVED: 2021

TO BE REVISED: 2023

| APPROVED DOCUMENT ON INTRANET ONLY – UNCONTROLLED DOCUMENT WHEN PRINTED. | | | | | | |
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| V02 | Euthanasia of Fish | Animal Ethics Committee | | #56618 | 2016 | 2018 |
| V03 | Euthanasia of Fish | Animal Ethics Committee |  | #56618 | 2021 | 2023 |

REFERENCES

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- Van De Vis H., Kestin S., Robb D., Oehlenschläger J., Lambooij B., Münkner W., Kuhlmann H., Kloosterboer K., Tejada M., Huidobro A., Otterå H., Roth B., Sørensen N.K., Akse L., Byrne H. & Nesvadba P. (2003) Is humane slaughter of fish possible for industry? *Aquaculture Research*, **34**, 211-220.