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EN 17233: Wasserbeschaffenheit — Anleitung zur Beurteilung der Wirksamkeit und zugehöriger Kennwerte von Fischaufstiegshilfen mittels Fernmessung

Sehr geehrter Herr Dipl.-Ing. Nachbaur,

wir erlauben uns, auf Basis des europäischen Normungsdokumentes „EN 17233: Wasserbeschaffenheit — Anleitung zur Beurteilung der Wirksamkeit und zugehöriger Kennwerte von Fischaufstiegshilfen mittels Fernmessung“ zum ÖNORM-Entwurf Stellung zu nehmen.

Grundsätzlich gibt es in Österreich ein breites Spektrum an Verfahren (z.B. Reusenmonitoring, Fang-Wiederfang, Video-Monitoring, Infrarot-Zählsysteme, etc.), die erfolgreich für das Fischpass-Monitoring eingesetzt werden. Im vorliegenden Entwurf wird der Eindruck erweckt, dass Telemetrie-Monitorings anderen Fischpass-Monitorings überlegen sind, ohne eine Abwägung der Vor- und Nachteile aller Monitoring-Verfahren anzuführen. Aus Sicht von Oesterreichs Energie sollte daher in dem Normungsdokument der Fokus auf Telemetrie gelegt werden – d.h. wie eine Telemetrie-Studie durchgeführt werden soll – und die Beurteilung anderer Monitoring-Verfahren vermieden werden. Daher ist jedenfalls der Titel der Norm entsprechend anzupassen.

Telemetrie-Methoden sind sehr kostenträchtige Verfahren für Fischpass-Monitoring, die inhärent mit Implantation, Operation und daher mit dem Tierwohl (insbesondere Radiotelemetrie; in geringerem Maße PIT-Tag) verbunden sind und (in Österreich) eine Tierversuchsbewilligung voraussetzen. Oesterreichs Energie weist daher ausdrücklich darauf hin, dass Telemetrie-Verfahren für wissenschaftliche Zwecke, aber nicht als

Standardmethode zur Bewertung der Effizienz von Fischpässen herangezogen werden sollten.

Die fachliche Stellungnahme mit Kommentaren und Änderungsvorschlägen in englischer Sprache zum Entwurf der Europäischen Norm finden Sie anbei mit der Bitte um Berücksichtigung!

Wir danken für die Kenntnisnahme unserer Stellungnahme und stehen für Rückfragen gerne zur Verfügung.

Mit freundlichen Grüßen



Dr. Leonhard Schitter
Präsident



Dr. Barbara Schmidt
Generalsekretärin

Beilagen

Kommentare und Änderungsvorschläge zum ÖNORM-Entwurf auf Basis des europäischen Normungsdokumentes „EN 17233: Wasserbeschaffenheit — Anleitung zur Beurteilung der Wirksamkeit und zugehöriger Kennwerte von Fischaufstiegshilfen mittels Fernmessung“

Über Oesterreichs Energie

Oesterreichs Energie vertritt seit 1953 die gemeinsam erarbeiteten Brancheninteressen der E-Wirtschaft gegenüber Politik, Verwaltung und Öffentlichkeit. Als erste Anlaufstelle in Energiefragen arbeiten wir eng mit politischen Institutionen, Behörden und Verbänden zusammen und informieren die Öffentlichkeit über Themen der Elektrizitätsbranche. Die rund 140 Mitgliedsunternehmen erzeugen mit knapp 21.000 Mitarbeiterinnen und Mitarbeitern mehr als 90 Prozent des österreichischen Stroms mit einer Engpassleistung von über 23.000 MW und einer Erzeugung von rund 65 TWh jährlich, davon 75,6 Prozent aus erneuerbaren Quellen.

Template for comments and secretariat observations

Date:	Document:	Project:
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MB/ NC ¹	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment ²	Comments	Proposed change	Observations of the secretariat
				ge	<p>In the introduction other methods to assess fish passage efficiency or effectiveness are judged – this should be avoided. There are a lot of methods/guidelines which have been used successfully in countries like Germany and Austria (e.g. Woschitz et al. 2003). The CEN-standard should focus on telemetry i.e. how to perform a sound telemetry study and not judge other methods.</p> <p>The standard doesn't give information on how to perform telemetry experiments but rather let the reader decide how to do the experiments – so it doesn't standardize anything. For example, regarding the important questions which fish to use (source fish) the reader has the choice between four alternatives with the only restriction that hatchery fish and fish from outside the watershed should be avoided. The source of the fish is one of the most important decisions to make as they have to be a representative sample of the population of interest. In most cases only fish from the vicinity of the impediment will fulfil this criterion. Even where the fish are caught (far downstream, in the fishway itself, ...) has a large effect on their behaviour (e.g. is the fish familiar with the fishway or not - learning). Also concerning sample size – again one of the most important questions when planning a telemetry study – the reader has to decide, although there exist formulas how to correctly calculate sample size based on the desired precision and power. At least these formulas should be provided in the standard.</p> <p>Telemetry methods are inherently associated with implantation, surgery and thus animal welfare (especially radiotelemetry; to a lesser extent PIT Tag). It is questionable if such invasive methods will be allowed in a standard method for</p>		

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					assessing fish pass efficiency.		
	Page 5, 2-5	Introduction	Page 5/ paragraph 1	ge	There are several cases, where the removal of dams is not the ideal ecological solution (e.g. impoundments designated as Important Bird Areas according to the bird directive)	Delete the sentence "The ideal solutioununimpeded sediment transport"	
	Page 6, 7-13	Introduction	Page 5/ paragraph 2	ge	May be misleading: Its not necessary to use ALL appropriate means	In general terms, fish pass monitoring is the activity of assessing by all appropriate means the degree of success (or failure) of fish dealing with the conditions of an implemented fish passage solution.	
	Page 6, 7-13	Introduction	Page 6/ paragraph 2	ge	The statement in this paragraph is not right; there are many other methods that allow the calculation of efficiency (e.g. all trapping methods combined with marking such as Visible Implant Elastomer Tags, Coded wire tags, colour marks, ...). Telemetry methods have also some disadvantages which are not mentioned: e.g. involvement of surgery, high costs, administrative burden regarding animal experiments, ...	Delete paragraph	
	Page 9	5 Principle and field of application	paragraph 2	ge	"...are not fully understood": This is contradictory to the Austrian and German guidance documents on fish passage solutions which assume that fishways built according to the guidance documents allow the passage of all species and all relevant development stages – this assumes that enough is known to build functioning fishways. These guidelines even state that no monitoring is required, if the fishway is built according to the guidance documents (e.g. DWA M509 "Auf diese Weise erübrigen sich im Regelfall sogenannte biologische Funktionskontrollen, bei denen die erfolgreich über das Bauwerk aufwandernden Fische mittels oberwasserseitig exponierter Fanggeräte erfasst werden.")	Delete paragraph	

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					Concerning efficiency (“these approaches provide no estimates of the population attempting passage”) see above: any combination of trapping and marking allows the calculation of efficiency.		
		6 Valid methods	paragraph 1 and list	ge	Any combination of trapping and marking allows the calculation of efficiency, attraction etc. these methods are thus also valid methods. All methods including telemetry have their pros and cons/ advantages and disadvantages	It should be stated that there are also other valid methods and the standard deals only with telemetry. The pros and cons of the different methods including telemetry could be discussed	
		7			There is an overemphasis on radiotelemetry; acoustic telemetry and PIT Tag studies are only dealt with superficially	Re-arrange/extend clause	
		7.2 Experimental design			Questions related to sample size and permissions of animal experiments should be addressed more in depth. They are dealt with only superficially. At least formulas for calculating the sample size should be provided (i.e. refer to Annex B and include it in the CEN standard).	Extend clause	
		7.7.1 Source fish			If “attraction” is a focus, the only source fish that give reliable results in studies of potamodromous fish are local wild fish (from downstream if upstream migration should be assessed; from upstream, if downstream migration should be assessed); see 7.7.3: “A key assumption of telemetry is that the fish tagged demonstrate behaviour that is representative of the population at large”; it is well known, that fish not used to a habitat/river stretch (i.e. introduced fish from tributaries, ...) and hatchery reared fish behave completely different than fish adapted to the local river stretch (there will occur competition, homing,)	Extend clause	
		7.7.2 Motivation			The paragraph is not very helpful; main message: “The extent of motivation to pass is something that is currently extremely difficult to gauge.” The	The standard should focus on diadromous species; for all other species “attraction” cannot be calculated (it’s always a mixture of motivation and	

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					main problem is that there is no straightforward method to measure “motivation”; with the exception of downstream migrating smolts and upstream migrating salmon/eels/shads (all diadromous) the “attraction” measure is always a mixture between “motivation” and “attraction”; a standard assessment based on telemetry is thus limited to the aforementioned species; notwithstanding that, scientific studies on other species are urgently needed to better understand “motivation”; but such studies cannot be the standard for the assessment of fishways!	attraction) and “attraction efficiency” will thus be used incorrectly in potamodromous species;	
		7.8 Data aquisition			To use 3D hydraulics to describe the flow in a fishway is like “using a sledgehammer to crack a nut”. For most fish species there exists no information on their requirements regarding 3D currents, turbulence, eddies etc. thus a 3D hydraulic model will not allow to assess the fishway better than 2D. Shear stresses are extremely difficult to measure, this can't be done in a routine way.	Rephrase clause	
		10 Reporting			The demand for the high standard of a scientific publication in a peer reviewed journal for reporting overshoots the target: a sound, reproducible study and report; most scientific journals go above this standard an demand novelty and also other criteria.		
		Annex A			There are a lot of other valid monitoring methods. A CEN standard on telemetry should focus on telemetry i.e. how to perform a sound telemetry study and not judge other methods as “not valid”.	Delete Annex A or Rename: Methods dealt with in the CEN standard	

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