

Whooshh Studies Quick Reference Guide

Color Key: Green- Peer Reviewed Publication Yellow- Published Report Orange- Published Article White- Whooshh Published Report

Whooshh Papers Provided (file name: Year + first word or two)	Publication kind	Study by	Species	Tech and Study Element in Brief	Biological Eval
2013 Mesa Publication	Peer Reviewed Publication	Independent Group - USGS	Adult Rainbow Trout	Prototype Tech with Baffles	yes
2014 WDFW USGS Kalama	Whooshh published report	Whooshh	Steelhead	Fish Passage hand fed accelerator to Berlin tube	yes
2014 Roza	Whooshh published report	Yakama Nation & Whooshh	Chinook	Prototype hand fed passive accelerator 40 ft vs Hand carry - smooth tube no baffles, health and reproductive data	yes
2015 ...Summerfelt Publication	Peer Reviewed Publication	Independent Group Fresh water inst.	Atlantic Salmon	Hand fed passive accelerator	
2015 PNNL	Peer Reviewed Publication	Independent Group - PNNL	Chinook	Sensor fish G forces	yes
2015 Roza	Whooshh published report	Yakama Nation & Whooshh	Chinook	Yr 2 Prototype hand fed passive accelerator 40 ft vs Hand carry - smooth tube no baffles, health and reproductive data	yes
2016 3 yr Study (Roza) 1100 ft	Whooshh published report	Yakama Nation & Whooshh	Chinook	Yr 3 Hand fed passive accelerator 40 ft and 1100 ft	yes
2016 Buckley	Whooshh published report	Whooshh	Pink Salmon	volitional entry Flow box, false weir prototype active accelerator	no
2016 Civil Eng. Publication	Published Article	Independent Group - Civ Eng		review of previous studies	no
2016 OLAFT ...study plan	Whooshh published report	Whooshh	Sockeye	Pit tag ladder vs Hand fed passive accelerator travel and either back to ladder or over the dam - migration study	no
2016 Alden lab Presentation	Presented Report	Independent Group - Alden/ EPRI	Sturgeon	Hand fed passive accelerator, tube transport to tank, Sturgeon Bio/condition Evaluation	yes
2016 PNNL Publication	Peer Reviewed Publication	Independent Group - PNNL	Chinook	Simulate Trap and Haul vs hand fed passive accelerator 40 and 250 ft tube phys, safe, fluor	yes
2016 SINTEF	Published Report	Independent Group- SINTEF	Atlantic Salmon	Broodstock hand fed passive transport vs tote transport Biochem eval	yes
2016 Water Power... FP Publication	Published Article	Whooshh - Jeannie		review of recent studies	no
2016 Whooshh Sockeye Priest Rapids	Published Report	Independent Group- CRITFC	Sockeye	CRITFC Priest Rapids Migration study	no
2017 Compilation	Whooshh published report	Whooshh		Compilation of Whooshh Studies and Tech advances through 2017	
2017 Cataract Maine...HDR	Published Report	Independent Group - HDR	American Shad	Hand fed passive accelerator, tube transport to tank vs no transport, American shad bio/condition survival assessment by HDR	yes
2017 Summary Report Cle Elum	Whooshh published report	Whooshh	Sockeye	(PT)Steeppass, false weir, (PT)scanner, (PT)sorting, (PT) active accelerator, (PT)booster, 1700 ft tube, (PT) floating exit ... POC of many prototype(PT) elements	no
2017 USGS Eval... Cle Elum	Published Report	Independent Group - USGS	Sockeye	Comparison outplanted Sockeye Trap and Haul vs WFTS	no
2019 Scanned BV Sockeye	Whooshh published report	Whooshh	Sockeye	FishL™Recognition system image collection, in Bonneville AFF, image classification post analysis	no
2019 Scanned BV Steelhead	Whooshh published report	Whooshh	Steelhead	FishL™Recognition system image collection, in Bonneville AFF, image classification post analysis	no
2019 Scanned BV Chinook and Coho	Whooshh published report	Whooshh	Chinook, Coho	FishL™Recognition system image collection, in Bonneville AFF, image classification post analysis	no
2019 Chief Joseph	Whooshh published report	Whooshh	Chinook	Whooshh Passage Portal - barge based, three tube	no
2019 Garavelli (PNNL) Publication	Peer Reviewed Publication	Independent Group - PNNL	Chinook Steelhead	Ringold Volitional entry steeppass, (PT)flow box, false weir, prototype scanner, (PT)selective autonomus sorting, tube passage,(PT) exit deflector, fish condition assessment	yes
2020 Scan image algo... Publication	Peer Reviewed Publication	Independent Group - Central Mich U/ USGS	22+ species	FishL™Recognition system image collection then post image deep learning	no
2020 Recognition Publication	Peer Reviewed Publication	Independent Group - Central Mich U/ USGS	22 species	FishL™Recognition system image collection then post image deep learning	no
2020 Final Report Big Bar	Whooshh published report	Whooshh	Chinook Sockeye	Whooshh Passage Portal - Land based autonomous volitional operation, steeppass, flow box false weir scanner, (PT) sorting to 7 lanes, 6 tubes plus bypass, with (PT)decel couplers, (PT) exit deflectors FishL™Recognition system image collection via volitional passage through downstream bypass chute, environmental conditions associated with migration	no
2020 Herting Downstream scanning	Whooshh published report	Whooshh	Eel, Atlanic Salmon, Sea Trout	German publication on Whooshh tech	no
2020 WaWi Publication	Published Article	Whooshh agent + Head R&D		Brief review of Whooshh Tech	no
2021 Upstream and Downstream Pub	Published Article	Independent + Whooshh		EPRI study: Whooshh Passage portal- (PT) barge based American shad passage over Santee Spillway, Alden lab fish condition assessment	yes
2022 AFS presentation	Presented Report	Independent Group- Alden	American shad	Steeppass study plus FishL™ Recognition imaging focused on Invasive carp , but open to any Illinois river species. U of Ill assessed post capture	yes
2022 Emiquon AFS presentation	Presented Report	Independent Group - U of Ill/ DNR	10+ species		yes

Additional studies - summary to come					
2021-22 Susquehannah - Conowingo- Fish Transport Tech Summary	In Progress	Whooshh	Gizzard shad American shad	Custom entry chute, active accelerator, ~900 T123 tube transport, passage tracking, exit deflector	yes
2022 Susquehannah -Imaging summary study	In Progress	Whooshh	Gizzard shad American shad Snakehead Catfish etc	FishL™Recognition imaging	no
2022 EPRI Santee Cooper Tech Summary	In Progress	Whooshh	American shad	Floating Whooshh Passage Portal	(See 2022 AFS presentation)
2021 Umatilla Tech Summary	In Progress	Whooshh	Chinook	Cart-based passive accelerator fish transport to transport truck	no
2022 Hoopa Tech Summary	In Progress	Whooshh	Chinook	Tuber, trailer-based passive accelerator fish transport from in-river weir fish traps to shore tank for harvesting	no