

Table B-3. Hardhead Juvenile Habitat Suitability Curve Metadata.

Curve ID		Fish Characteristics				Sample Size ¹		Stream Location			Stream Characteristics ²							Sampling Info					Available HSC Curves				Notes	Reference							
Name	Used for MFP	Species	Life-stage	Length		No. HSC Obs	No. Fish	Country	State	River	Elevation		Width			Streamflow			Mean Slope (%)	Water Temperature			Species Composition ³	Site-Specific?	Sampling Season	Survey Design ⁴	Observ Method ⁵	Curve Type ⁶	Curve Smoothing ⁷	Velocity		Cover ⁸	Substrate ⁸		
				Min (cm)	Max (cm)						Min (ft msl)	Max (ft msl)	Mean (ft)	Min (ft)	Max (ft)	Mean (cfs)	Low (cfs)	High (cfs)		Mean (°F)	Min (°F)	Max (°F)								Total Depth	Mean Col				
NFFR - Density, Util, Pref, PrAb,	Y	Hardhead	juv	<15		140		USA	CA	NF Feather	925	2,010	avg 70-106				96	131	0.4-1.1		64	72	skr,rbt,pkm,hdh,smb	Y	July-Aug	EA	DO uw	II and III		Y	Y	Y		4 methods used (utilization, preference, pres-abs, density)	TRPA 2001
Pit Pref and Util	Y	Hardhead	juv			90		USA	CA	Pit	1,445	2,650	40	200		50	150	0.7-1.1				skr,rbt,pkm,hdh	Y	summer	RCH	DO uw	II and III		Y	Y	Y	Y	2 methods used (utilization and preference; preference curve reweighted to equalize effort)	Baltz and Vondracek 1985	
Deer	Y	Hardhead	juv	<16cm SL		81		USA	CA	Deer	30	3,500	20	50		100	200	1		55	90			June-Oct		II and electivity		Y	Y	Y		Y	electivity and reaches	Moyle and Baltz 1985	
W Sierra	Y	Hardhead	juv	<12cm TL		537		USA	CA	Sierra streams	203	1,460	6	59				0.1-2.9		49	77			July - Oct	RCH	I/II		Y	Y			reaches surveyed; curve points approximated from graphs; includes data from Moyle & Baltz 1985	Knight 1985		

¹# HSC observations is number of independent measurements at fish positions, # fish is total number of fish seen at the measurement locations

²stream habitat characteristics during the period of sampling for HSC

³species abbreviations: chs=chinook salmon, coh=coho salmon, sth=steelhead, rbt=rainbow trout (resident), brn=brown trout, brk=brook trout, bul=bull trout, cut=cutthroat trout, wtf=whitefish, skr=suckers, scp=sculpin, pkm=pikeminnow, hdh=hardhead, dac=dac

⁴survey design: sampling design used to collect hsc data, i.e. reaches - samples collected in representative reach(es), proportional - samples collected within mesohabitat types with effort in proportional to availability, equal-area - samples collected with effort equalized among habitat types

⁵observation method: DOuw-direct observation underwater (snorkeling/scuba), DOow-direct observation out-of-water (wading, boat, or bank observation), EF-electrofishing, VID-underwater video, NET-seining or other net capture, Other (see comments)

⁶curve type: Cat I - hand-drawn or a composite of various curves based on professional judgment, Cat II - based on habitat use data, Cat III - based on habitat use data adjusted by habitat availability data, Bio - bioenergetics hsc

⁷curve smoothing: method used (if any) to smooth raw observation or frequency histogram data

⁸see hsc data sets for cover and substrate coding details