

Harlequin Duck Survey Form # ___ of ___

Date _____

Start time _____ End time _____ Surveyor(s) _____

Stream _____

Include map with exact area(s) surveyed if possible

Begin point _____ end point _____

Weather _____

(Temp., wind dir & speed, cloud cover, precip last 24 hrs)

Survey type (circle one): FOOT BOAT AUTO Other: _____

Group # _____ # Individuals _____

(Put on map if possible)

Location _____

Sexes & Ages _____

Marked? _____

Group # _____ # Individuals _____

(Put on map if possible)

Location _____

Sexes & Ages _____

Marked? _____

Group # _____ # Individuals _____

(Put on map if possible)

Location _____

Sexes & Ages _____

Marked? _____

REMARKS



Group # _____ # Individuals _____
(Put on map if possible)

Location _____

Sexes & Ages _____

Marked? _____

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(Put on map if possible)

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Group # _____ # Individuals _____
(Put on map if possible)

Location _____

Sexes & Ages _____

Marked? _____

REMARKS:

HARLEQUIN DUCK OBSERVATION FORM
(Record data for the site where ducks are first seen!)

Date _____ Time _____ Stream _____ Observer _____ Survey/Casual
 UTM-N _____ UTM-E _____ T _____ R _____ S _____ 1/4 _____

INDIVIDUALS	LEG BANDS (L top/bottom, R top/bottom)		NASAL DISCS (L:R)		
1. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
2. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
3. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
4. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
5. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
6. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
7. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
8. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
9. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____
10. Sex__ Age__	/	/	Legs not seen	No bands	_____ : _____

ACTIVITY	HABITAT	LOCATION	SUBSTRATE	CHANNEL TYPE
		IS island		
LO loafing	BA backwater	LO loaf	CL clay	ST straight
SW swimming	PO pool	BA bank	SA sand	ME meander
SF swim/feed	RI riffle	ED edge	GR gravel	CU curved
FL flying	GL glide	BT bank 1/3	CO cobble	BR braided
OT other	RU run	CF center	BO boulder	AB abandoned
	RA rapid	EY eddy	BE bedrock	
	PW pocketwater	PD pond		

BANK COMP.	OVERSTORY AGE	HUMAN ACCESS	DEBRIS WITHIN 10m OF DUCK	
TR trees	SE seedling	AD adjacent	Loafing sites	0 1 >1
SH shrub	SA sapling	NE near	Ramp	0 1 >1
GF grass/forb	PO pole	AC accessible	Drift	0 1 >1
TS tree/shrub	IM immature	IN inaccessible	Bridge	0 1 >1
SA sand	MA mature		Collapsed br.	0 1 >1
SI silt	OG old-growth			
GR gravel				
BE bedrock				

Stream depth (m) _____ Bank undercut? Y N Stream velocity: _____
 Stream width (m) _____ Overhanging vegetation? Y N _____

COMMENTS

STREAM HABITAT

Backwater - slow water area out of main stream channel
Pool - deep, slow water area in the stream
Riffle - shallow area where the surface is influenced by the stream bottom
Glide - run area with velocity < 0.3 m/sec
Run - deeper than a riffle, no whitewater, too fast to be a glide or a pool, velocity > 0.3 m/sec
Rapid - whitewater, deep fast water, influenced by stream bottom and/or bank
Pocketwater - a run or riffle with boulders (>30 cm in diameter) which create numerous small pools

LOAFING

Loaf - loafing on a rock or log
Bank - on the streambank
Edge - at the very edge of the stream next to the bank, in the bank eddy
Bank 1/3 - beyond edge but in the third of the stream closest to the bank
Center - in the water in the center 1/3 of the stream, not in an eddy
Eddy - in an eddy created by a rock or a log

SUBSTRATE

Gravel - 0.2-7 cm (0.1-3") diameter Boulder - >30 cm
Cobble - 8-30 cm (3-12") Bedrock - no loose fill

CHANNEL TYPE

Straight - Stream channel linear, structurally controlled by a "V" shaped valley, no movement of channel during peak flows
Meander - Channel follows sinuous curves, deep pools separated by shallow riffles, appears to shift slightly during peak flows
Curved - Stream channel curves or zig-zags more abruptly than a meander, channel structurally controlled by a "V" shaped valley, no movement of channel during peak flows
Braided - Channel located in flat-bottomed valley, midstream bars occur and divide the stream into several intersecting and shifting channels

OVERSTORY AGE

Seedling - 1-10 yrs old, < 4.5' tall Immature - 70-100 yrs old, DBH 9-14"
Sapling - 10-40 yrs old, DBH < 5" Mature - 100-160 yrs old, DBH 14-20"
Pole - 40-70 yrs old, DBH 5-9" Old growth - >160 yrs old, DBH >20"

HUMAN ACCESS

Adjacent - established area of human activity maintained within 10m of bank
Near - established area of human activity maintained within 10-50m of bank
Accessible - >50 m from human activity, accessible by car or trail
Inaccessible - >50 m from human activity, not accessible by car or trail

DEBRIS

Bridge - log across stream
Collapsed bridge - log across stream, collapsed in middle of stream
Ramp - one end of log in stream, other end on the bank
Drift - log in stream that is not close to either bank

LOAFING SITE - rock or log in stream completely surrounded by water, suitable for resting site

VEGETATIVE OVERHANG - vegetation over the stream within 12" of water surface

Harlequin Duck Banding Form

Date _____ Stream _____

Exact Location (TRS, utm, etc) _____

Sex: M F U Age: AD IA IB IC IIA IIB IIC III flying juv

Band # _____ Color Bands Lft _____ Rt _____ Nasal Saddles Lt _____ Rt _____

Weight _____ g Wing chord _____ mm Tail _____ mm Tarsus _____ mm

Notes _____

(with other ducks? marked, sex, age? etc.)

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Date _____ Stream _____

Exact Location (TRS, utm, etc) _____

Sex: M F U Age: AD IA IB IC IIA IIB IIC III flying juv

Band # _____ Color Bands Lft _____ Rt _____ Nasal Saddles Lt _____ Rt _____

Weight _____ g Wing chord _____ mm Tail _____ mm Tarsus _____ mm

Notes _____

+++++

Date _____ Stream _____

Exact Location (TRS, utm, etc) _____

Sex: M F U Age: AD IA IB IC IIA IIB IIC III flying juv

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Notes _____

(with other ducks? marked, sex, age? etc.)

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