

CATALOG OF SURFACE AND UNDERWATER BEHAVIORS OF ATLANTIC SPOTTED DOLPHINS.

This catalog is a list of the many different behavior units observed from Atlantic spotted dolphins (*Stenella frontalis*). These behaviors are not mutually exclusive to the different behavioral activities. Behavioral activities were described and defined during this study and include: social (aggressive and affiliative), travel, forage, play (with or without object(s)), and inquisitive (see chapter III). Social activities are subdivided into two categories: large-group social activity and small-group social activity. See Chapter III for a detailed discussion of this behavior catalog.

DEFINITION CODES

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
BEL	BELLY	VENTRAL SIDE OF DOLPHIN FROM FLIPPER TO GENITAL SLIT
BLH	BLOWHOLE	NOSTRIL IN THE TOP OF THE DOLPHIN'S HEAD
CLF	CALF	CLASS 1, ATLANTIC SPOTTED DOLPHIN
CHT	CHEST	VENTRAL AREA BETWEEN PECTORAL FINS
DOR	DORSAL SIDE	THE BACK OF A DOLPHIN WHERE DORSAL FIN EMERGES
ERE	ERECTION	THE TURGID, FIRM & ERECT POSITION OF A DOLPHIN PENIS
EYE	EYE	THE EYE AND AREA JUST ADJACENT TO THE EYE
FAC	FACE	AREA BETWEEN THE POSTERIOR END OF ROSTRUM & THE EYE
FLU	FLUKES	THE FINS ON THE END OF THE PEDUNCLE OR THE TAIL
GEN	GENITAL	GENITAL AREA OR THE ACTUAL, NORMALLY RECEDED SEXUAL ORGANS
JAW	JAW	REFERS TO VENTRAL PORTION OF ROSTRUM
JUV	JUVENILE	CLASS 2 AND 3, ATLANTIC SPOTTED DOLPHINS
KEE	KEEL	VENTRAL SIDE OF PENDUNCLE
LAT	LATERAL SIDE	SIDE OF DOLPHIN'S BODY
MAD	MATURE ADULT	CLASS 4 AND 5, ATLANTIC SPOTTED DOLPHINS
MLN	MELON	AREA ON DOLPHIN'S HEAD WHICH CONTAINS FATTY TISSUE (i.e., forehead)
PDL	PEDUNCLE	TAIL STOCK FROM GENITAL SLIT TO BEGINNING OF FLUKES
PEN	PENIS	MALE GENITALIA
RES	RESPIRATION	BREATHS
ROS	ROSTRUM	DOLPHIN'S BEAK
VEN	VENTRAL	THE UNDERSIDE OF THE DOLPHIN

DEFINITION CODES continued.

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
GRP	GROUP	**DEFINED AS A NUMBER OF DOLPHINS SEEN DURING AN ENCOUNTER OR SIGHTING** EACH GROUP MAY CONTAIN DOLPHINS IN SUBGROUPS AT DISTANCES GREATER THAN DISTANCES BETWEEN DOLPHINS WITHIN THE SUBGROUPS
SEQ	SEQUENCE	SEVERAL OCCURRENCES OF THE SAME BEHAVIOR IN SUCCESSION

X BAD OBSERVATION FOCAL ANIMAL(S) NOT IN VIEW; EITHER ON VIDEO OR IN REAL TIME

AGE AND SPOT CLASSES OF SPOTTED DOLPHINS

SWIMMING SPEEDS

CL1	CLASS 1 "NEONATE" - GRAY & IVORY COLORATION	BSW	BLAST SWIM	SWIFT BURST OF SPEED (e.g., >6MPH)
CL2	CLASS 2 "TWO-TONE" - DARK ABOVE/LIGHT BELOW			PRECEDED BY SLOW SWIM/NON-MVT
CL3	CLASS 3 "SPECKLED" - COUNTERSHADED; FEW SPOTS	CSW	CRUISING SWIM	STEADY SWIMMING AT A MODERATE SPEED (e.g., 2.0-2.9
CL4	CLASS 4 "MOTTLED" - SPOTTED ALL OVER			MPH) IN GIVEN DIR.
CL5	CLASS 5 "FUSED" - SPOTS ARE IN FUSED PATTERNS	FSW	FAST SWIM	FAST SWIMMING (e.g., 4-4.9MPH) OF DOLPHIN(S) IN A GIVEN DIRECTION
			SSW	SLOW SWIM SLOW MOVEMENT (e.g., 1-1.9 MPH) IN A GIVEN DIR.

POSITIONING OF INDIVIDUALS AND GROUPS

SINGLE INDIVIDUAL

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
BUP	BELLY UP	BELLY FULLY EXPOSED TO SURFACE OF WATER (ventral on surface)
FDO	FLUKE DOWN	FLUKES ARE POINTED DOWN WITH RESPECT TO THE BODY
FLX	FLEXING	HEAD AND TAIL MOVEMENTS CONCAVE AND CONVEX, ALTERNATELY
FUP	FLUKE UP	DORSAL SURFACE & TRAILING EDGE OF FLUKES ARE POINTED UP WITH RESPECT TO THE BODY

POSITIONING OF INDIVIDUALS AND GROUPS

SINGLE INDIVIDUAL

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
HFD	HEAD & FLUKE DOWN	HEAD & FLUKES POINTING DOWN WITH RESPECT TO THE BODY
HFU	HEAD & FLUKE UP	HEAD & FLUKE POINTING UP WITH RESPECT TO THE BODY
HSF	HUMPING SURFACE	SNAGGING AT SURFACE: MOVING DORSAL AREA IN & OUT OF THE WATER
HDO	HEAD DOWN	HEAD POSITIONED DOWN WITH RESPECT TO THE BODY
HUP	HEAD UP	HEAD POINTED UP WITH RESPECT TO THE BODY
LOB	LYING ON BOTTOM	LYING FLAT ON THE SEA FLOOR

OSD	ONSHORE	WHEN SWIMMING, TURNS BODY ONSIDE (eye to surface) WHILE MOVING
RST	REST	DOLPHINS STATIONARY AT SURFACE IN HORIZONTAL POSITION
SNK	SINK	SLOWLY MOVE DEEPER IN WATER COLUMN, ANY POSITION
SKD	SINK DOWN	VERTICAL ORIENTATION, BBS OR BBR RELEASED-FOLLOW TO SURFACE
SOM	SOMMERSAULT	FORWARD FLIP UNDERWATER
SPY	SPY HOP	MOVE HEAD UP AND OUT OF WATER TO PECS THEN RETRACE PATH AND RE-ENTER WATER
SSF	SUB-SURFACE FLOAT	HANGING (any position but vertical) IN WATER COLUMN
SUS	SUSPENDED SWIM	DOLPHIN UNDERWATER IN VERTICAL POSITION; SUSPENDED IN WATER;
VTU	VENTRAL SIDE UP	POSITION OF BODY IS VENTRUM UP, DOLPHIN HORIZONTAL & UPSIDE DOWN

2 OR MORE DOLPHINS

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
ABR	ABREAST	ANIMALS IN SAME ORIENTATION & SIDE BY SIDE (usually less than 0.5 body lengths staggered and within 1 to 2 body widths)
AHD	AHEAD	AHEAD OF OTHER DOLPHIN, IN SAME PLANE BUT TO LEFT OR RIGHT OF OTHER'S ROSTRUM
BCP	BODY CONTACT	ONE DOLPHIN'S BODY CONTACTS SLIGHTLY DIAGONALLY ON TOP OF ANOTHER
BHD	BEHIND	BEHIND OTHER, IN SAME PLANE
BTW	BETWEEN	ONE DOLPHIN BETWEEN 2 OTHERS
CNT	CONTACT	BODY TO BODY CONTACT (dolphin positions identified)

POSITIONING OF INDIVIDUALS AND GROUPS CONTINUED

2 OR MORE DOLPHINS

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
CTP	CONTACT POSITION	PECTORAL FIN OF ONE DOLPHIN PLACED ON LATERAL OF ANOTHER, NO MOVEMENT
HTH	HEAD TO HEAD	DOLPHINS POSITIONED HEAD TO HEAD WITH RESPECT TO ONE ANOTHER
MND	MEANDERING	DOLPHINS IN ORIENTED PARALLEL: REPEATED DIRECTION CHANGES, SLOW MVT
MLL	MILLING	DOLPHINS IN A GROUP, CHANGE ORIENTATION W/ RESPECT TO EACH OTHER, SLOW MOVEMENT
NXT	NEXT TO	DOLPHINS WITHIN 2 FEET OF EACH OTHER -- ANY ORIENTATION EXCEPT PARALLEL OR PERPENDICULAR
PAR	PARALLEL	DOLPHINS NEXT TO EACH OTHER WITH THE SAME BODY ORIENTATION
PMS	STOPPED POSITION	NOT ACTIVELY MOVING
PRP	PERPENDICULAR	ONE DOLPHIN BODY PERPENDICULAR TO ANOTHER DOLPHIN'S BODY

INFANT CODES NOTE: ADULT W/ CLASS 1 NOT ASSUMED TO BE MOTHER UNLESS CLASS 1 SEEN WITH ADULT ON MORE THAN 3 OCCASIONS OR SEEN NURSING FROM ADULT

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
MPN	MELON POSITION	ADULT'S MELON IN CONTACT WITH THE UNDERSIDE OF INFANT'S TAIL REGION
NUR	NURSING	CALF IN POSITION NEAR MAMMARY SLITS WITH ROSTRUM NEAR/IN A SLIT (NOT IMPLYING MILK TRANSFER)
PO		Calf in front of adult
P2		Calf at adult's side (within 2 feet)
P3	BABY POSITION	Calf along side of adult from genital-flukes
P6		Calf under adult (other than genital-mammary orient)
P7		Calf dorsal to adult
P20		Adult-calf side by side, belly to belly

BEHAVIOR CODES

ACTIONS OF INDIVIDUAL DOLPHIN

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
BRE	BREACH	ENTIRE BODY CLEARS WATER AND LANDS ON LATERAL SIDE OR BELLY AT SURFACE
BRL	BARREL ROLL	ROLL BODY 360 DEGREES/STATIONARY
BTG	BOTTOM GRUBBING	INVERTED VERTICALLY; DOLPHIN ROSTRUM NEAR SEAFLOOR; DOLPHIN SLIGHTLY ROTATING PENDUNCLE FIRST AND HEAD FOLLOWS
CKW	CORKSCREW	BARREL ROLL WHILE IN FORWARD MOTION
DEF	DEFECATION	DOLPHIN IS POOPING
DRP	DROP	DROP OBJECT SUCH AS A FISH, SEAWEED, ETC.
FED	FEEDING	ANIMAL(S) FEEDING
FIK	BURY FLUKES	DOLPHIN ACTIVELY BURIES FLUKES IN SAND IN SAND
FKS	FLUKE STAND	DOLPHIN VERTICAL W/ FLUKES TOUCHING SAND
FLS	FLUKE SLAP	SLAP FLUKES AT SURFACE OF WATER
FSS	FAST SURFACE	ANIMAL SURFACES FOR A QUICK BREATH, CAUSING A WAKE, AND DIVES
FTS	FISH TOSS	ANIMAL TOSSES FISH FROM MOUTH, USUALLY WITH TEETH GRASPING FISH
GAB	GLIDE ALONG	DOLPHIN GLIDES OVER SEAFLOOR, SWIMS SLOWLY ~1 FT ABOVE SAND BOTTOM
HJD	HEAD JERK DOWN	SINGLE QUICK DELIBERATE MOVEMENT OF HEAD DOWN
HJE	HEAD JERK	SINGLE QUICK DELIBERATE MOVEMENT OF HEAD (to side or diagonally)
HJU	HEAD JERK UP	SINGLE QUICK DELIBERATE MOVEMENT OF THE HEAD UP

HSC	HEAD SCANNING	MOVING HEAD Laterally side to side (often seen during echolocation)
JCP	JAW CLAP	DOLPHIN OPENS & CLOSES JAWS
LPG	LEAPING	CLEARING WATER COMPLETELY, RE-ENTRY HEAD FIRST (usually two or more successive leaps)
MTB	MULTIPLE BREATHS	SEVERAL BREATHS IN SUCCESSION DURING A SURFACING
PIU	PICK UP OBJECT	DOLPHIN PICKS UP AN OBJECT W/ JAW OR PEC OR DORSAL FIN OR FLUKES
PJK	PEC JERK	MOVEMENT UP AND DOWN OF PECTORAL FIN
PPS	PORPOISE	DIVES OUT OF WATER AND BACK IN WITHOUT CLEARING SURFACE
RGD	REGULAR DIVE	NO PORTION OF FLUKES OUT OF WATER WHEN DIVING, SLOWER THAN PORPOISING
RLL	ROLL	ROLLING OTHER THAN BARREL ROLL
ROO	ROOSTER STRUT	DOLPHIN W/ HEAD OUT OF WATER & JERKS IT BACK WHILE SWIMMING
RSM	MOVE	DOLPHIN HORIZONTAL AND MOVING HORIZONTALLY AT SURFACE
SRB	SAND RUBBING	RUBBING ALL/PART OF THE BODY IN THE SAND
STB	SWIM TO BOTTOM	DOLPHIN SWIMS TOWARDS SEA FLOOR AT 45° ANGLE OR MORE
TJK	TAIL JERK	TAIL MOVEMENT VERTICALLY OR Laterally
UTS	UP TO SURFACE	DOLPHIN SWIMS TOWARDS SURFACE AT 45° ANGLE OR MORE

INTERACTIONS BETWEEN 2 OR MORE DOLPHINS

*USE ACTOR-BEHAVIOR-RECIPIENT FORMAT for all behavior codes with *****

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
APP	APPROACH	ONE ANIMAL APPROACHES ANOTHER AT CSW or SSW****
ATK	CHASE & BITE	ONE ANIMAL CHASES AND BITES OR HITS ANOTHER****
BOD	FULL BODY	DOLPHIN ROLLS OVER THE OTHER, WITH FULL BODY CONTACT****
BSL	BODY SLAM	ONE DOLPHIN SLAMS ITS BODY INTO ANOTHER****
BTB	BELLY TO BELLY	DOLPHINS SWIMMING BELLY TO BELLY
BTE	BITE	DOLPHIN BITES OR RAKES TEETH ON ANOTHER DOLPHIN****
CCH	CIRCLE CHASE	DOLPHINS CIRCLING EACH OTHER WHILE SWIMMING FAST
CHG	CHARGE	FAST-SPEED, DIRECT APPROACH TO ANOTHER DOLPHIN****
CHS	CHASE	ONE OR MORE DOLPHINS SWIFTLY FOLLOWING OTHER DOLPHIN(S)
DEP	DEPART	ONE DOLPHIN DEPARTS ANOTHER MORE THAN 5 FEET****
EXC	EXCHANGE	ONE DOLPHIN GIVES SOMETHING TO ANOTHER, E.G., FISH, SEAWEED****
FGT	FIGHT	A CHASING, BITING, HITTING SEQUENCE BETWEEN 2 OR MORE DOLPHINS
FLW	FOLLOWING	ONE ANIMAL FOLLOWS ANOTHER ANIMAL****
HHC	HEAD TO HEAD	TWO DOLPHINS POSITIONED HEAD TO HEAD, CIRCLING ONE ANOTHER
	CIRCLING	
ITR	INTERRUPT	AN INTERACTION BETWEEN AT LEAST 2 DOLPHINS THAT IS DISTURBED BY OTHER DOLPHIN(S)
KRB	PEDUNCLE RUB	ONE DOLPHIN RUBS ANOTHER'S BODY PART WITH ITS PEDUNCLE****
NDG	NUDGING	ONE DOLPHIN PUSHES ROSTRUM ON ANOTHER DOLPHIN'S BODY PART****

PDD	PUSH DOWN	ONE DOLPHIN PUSHES ANOTHER DOLPHIN DOWN (usually w/ rostrum)****
PET	PETTING	ONE DOLPHIN MOVES PEC FIN ALONG ANOTHER'S BODY PART****
PLY	PLAY	PLAY W/ PEOPLE, W/ BUBBLES, W/ SEAWEED, W/ DOLPHINS, ETC
PRB	PETTING/RUBBING	CAN NOT TELL BETWEEN PET OR RUB
PUU	PUSH UP	ONE DOLPHIN PUSHES ANOTHER ONE UP (usually with rostrum)****
RAM	RAM	ONE DOLPHIN HITS ANOTHER'S BODY WITH IT'S BODY AT FAST SPEED****
RHT	ROSTRUM HIT	ONE DOLPHIN HITS ANOTHER DOLPHIN WITH ROSTRUM****

BEHAVIOR CODES continued

INTERACTIONS BETWEEN 2 OR MORE DOLPHINS

USE ACTOR-BEHAVIOR-RECIPIENT FORMAT for all behavior codes with ****

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
RUB	RUBBING	ONE DOLPHIN RUBS ITS BODY ON ANOTHER'S BODY W/ NO ACTIVE MOVEMENT
RZZ	RECIPROCAL NUZZLING	DOLPHINS RUBBING ROSTRUMS AGAINST EACH OTHERS' BODIES
SCK	FISH MOUTHING OR SNACKING	MOUTHING FISH BUT NOT EATING FISH
SPT	SYNCH PETTING	2 INDIVIDUALS PETTING ANOTHER (THIRD DOLPHIN) SIMULTANEOUSLY
SYB	SYNCH BREATHE	TWO OR MORE INDIVIDUALS SYNCHRONOUSLY SURFACE & BREATHE
THT	FLUKE HIT	ONE DOLPHIN HITS ANOTHER WITH ITS FLUKES
XXB	CROSS IN BACK OF	<i>SPECIFY ACTOR & RECIPIENT</i>
XXF	CROSS IN FRONT OF	<i>SPECIFY ACTOR & RECIPIENT</i>
XXO	CROSSOVER	<i>SPECIFY ACTOR & RECIPIENT</i>
XXU	CROSS UNDER	<i>SPECIFY ACTOR & RECIPIENT</i>

GENITAL-ORIENTED BEHAVIOR CODES

USE ACTOR-BEHAVIOR-RECIPIENT FORMAT for all behavior codes with ****

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
DSM	DORSAL MOUNT	ONE DOLPHIN'S DORSAL FIN INTO GENITALS OF ANOTHER DOLPHIN
EOR	ERECTION W/ DIRECTION	PENIS ORIENTED TOWARDS ANOTHER DOLPHIN OR OBJECT
GOH	GENITAL TO HEAD	GENITAL ORIENTATION TOWARDS HEAD OF OTHER DOLPHIN
GOS	GOOSE	ROSTRUM TO GENITAL BEHAVIOR BETWEEN TWO DOLPHINS
GPS	GROUP-ON-ONE SEX	SEVERAL DOLPHINS SEXUALLY MOLEST A SINGLE DOLPHIN
HRD	HERDING	MALE(S) PURSUE(S) FEMALE(S) SEXUALLY
INT	INTROMISSION	COPULATION SUCCESS
IVM	INVERTED MOUNT	MALE MOUNTING FEMALE FROM A VENTRAL UP POSITION
MFG	MUTUAL FACE TO GENITAL RUB	DOLPHINS RUBBING FACE TO GENITALS ON EACH OTHER

MNT	MOUNT	ONE DOLPHIN'S GENITAL AREA TOUCHES ANOTHER'S GENITAL AREA (no intromission)
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GENITAL-ORIENTED BEHAVIOR CODES continued

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
MTG	MELON TO GENITALS	ONE DOLPHIN PUSHES MELON AGAINST GENITALS OF ANOTHER DOLPHIN
PMT	PEC MOUNT	ONE DOLPHIN PLACES PECTORAL FIN INTO OR AGAINST ANOTHER'S GENITAL SLIT
SEX	SOCIO-SEXUAL	ACTIVITY INVOLVING SEXUAL BEHAVIOR BETWEEN ANY 2 INDIVIDUAL DOLPHINS
SGS	SYNCH GOOSE	2 INDIVIDUALS BEAK-GENITAL TO ANOTHER SIMULTANEOUSLY
SMT	SYNCH MOUNT	2 INDIVIDUALS MOUNT ANOTHER SIMULTANEOUSLY
SBR	SYNCH ROLL OUT	2 MALES SIMULTANEOUSLY ROLL VENTRALLY ON EITHER SIDE OF FEMALE
SSP	SYNCH SIDE PRESS	2 MALE DOLPHINS SIDE PRESS A FEMALE SIMULTANEOUSLY
THR	THRUST	IN MOUNTING, AN INDIVIDUAL THRUSTS BODY TO GENITALS OF ANOTHER

VOCALIZATION CODES

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
BPS	BURST-PULSED SOUND	BURST-PULSED SOUND, broad-band frequency, short-duration
CHP	CHIRP	FREQUENCY MODULATED TONE, with narrow bandwidth & short duration
ECC	CLICK TRAIN/ ECHOLOCAION	SERIES OF PULSED SOUNDS, a fraction of a second for each click
POP	POP	POP-PULSE SOUND, when jaws come together forcefully or from melon
SCR	SCREAM	HIGH INTENSITY SEQUENCE, broad-band and varying duration
SQK	SQUAWK	"EFFORT-RELATED" PULSED SOUNDS, short duration & broad band
WHS	WHISTLE	NARROW RANGE, FREQUENCY-MODULATED TONE

BUBBLE DISPLAYS

<u>CODE</u>	<u>NAME</u>	<u>DESCRIPTION</u>
BBT	BUBBLE TRAIL	THICK COLUMN OF TINY BUBBLES
BBL	BUBBLE	SINGLE BUBBLE FROM BLOWHOLE
BBR	BUBBLE RING	AIR RING WHICH SLOWLY SURFACES, FROM BLOWHOLE
BBS	BUBBLE STREAM	SEVERAL SMALL BUBBLES PRODUCED IN A STREAM
BBU	BUBBLE BURST	CLOUD OF BUBBLES PRODUCED THROUGH BLOWHOLE