

# Supplementary Materials: Activity, Social Relationships, and Maternal Care in a Bottlenose Dolphin Group Under Professional Care

**Table S1.** Swim State Operational Definitions.

Swim State	Category	Definition
Solitary Swim	Solitary	Dolphin swims independently, not synchronous with any conspecific
Solitary Surface Resting	Solitary	Dolphin remains stationary at the surface of the water column independently
Solitary Bottom Resting	Solitary	Dolphin remains stationary at the bottom of the water column independently
Solitary Vertical Resting	Solitary	Dolphin remains stationary while positioned vertically in the water column
Solitary Wall Swim	Solitary	Dolphin swims with a pectoral fin and/or dorsal fin near the wall, using it as a guide
Group Swim	Social	Three or more dolphins (not including a mother/calf dyad) swimming synchronously within one dolphin-body-length (approx. 2.5 m)
Group Swim with Calf	Social	Three or more dolphins including a mother/calf dyad swimming synchronously within one dolphin-body-length (approx. 2.5 m)
Group Surface Resting	Social	Three or more dolphins remain stationary at the surface of the water column within one dolphin-body-length (approx. 2.5 m)
Group Bottom Resting	Social	Three or more dolphins remain stationary at the bottom of the water column within one dolphin-body-length (approx. 2.5 m)
Mother-Calf Swim	Social	Mother/calf dyad swimming synchronously within one dolphin-body-length (approx. 2.5 m)
Group Social Swim	Social	Three or more dolphins interacting non-synchronously within one dolphin-body-length (approx. 2.5 m; e.g., play)
Pair Social Swim	Social	Two dolphins interacting non-synchronously within one dolphin-body-length (approx. 2.5 m; e.g., play)
Pair Swim	Social	Two dolphins (not a mother/calf dyad) swimming synchronously within one dolphin-body-length (approx. 2.5 m)
Pair Surface Resting	Social	Two dolphins remain stationary at the surface of the water column within one dolphin-body-length (approx. 2.5 m)
Pair Bottom Resting	Social	Two dolphins remain stationary at the bottom of the water column within one dolphin-body-length (approx. 2.5 m)
Out of Sight	N/A	Dolphin is out of view

**Table S2.** Behavior Event Operational Definitions.

Behavior	Category	Type	Definition
Beach	Solitary	Active	Dolphin slides more than one-third of its body onto the slide out
Bite/Rake	Social	Agonistic	Dolphin forcefully rubs its teeth or closes mouth around another dolphin
Bite/Rake Recipient	Social	Agonistic	Another dolphin rubs its teeth or closes its mouth with force around the focal dolphin
Bow	Solitary	Active	Dolphin fully jumps out of the water and re-enters the water head first
Breach	Solitary	Active	Dolphin fully jumps out of the water and re-enters the water on its lateral side
Bubble Burst	Solitary	Active	Dolphin produces large bubble/bubbles from the blowhole similar to those produced by scuba equipment
Bubble Ring	Solitary	Active	Dolphin produces bubbles in the shape of a ring from the blowhole

Bubble Trail	Solitary	Active	Dolphin produces a series of small bubbles from the blowhole that form a trail
Chase	Social	Active	Rapid and persistent pursuit of another dolphin
Erection	Social	Sexual	Dolphin's penis is visible
Flee	Social	Active	Abrupt, rapid, and immediate departure in response to the actions of another dolphin
Fluke Slap	Solitary	Active	Dolphin slaps the surface of the water with its flukes in a quick manner
Fluke Splash	Solitary	Active	Dolphin swims ventral side up near the surface of the water and splashes water upward with their flukes
Genital Rub	Social	Sexual	Dolphin rubs the genital area of another dolphin with any part of their body other than their rostrum or genitals
Genital Rub Recipient	Social	Sexual	Another dolphin rubs the genital area of the focal dolphin with any part of their body other than their rostrum or genitals
Goosing/ Push-Up	Social	Sexual	Dolphin inspects or contacts the genital area of another dolphin with their rostrum
Goosing/ Push-Up Recipient	Social	Sexual	Another dolphin inspects or contacts the genital area of the focal dolphin with their rostrum
Group Social Ball	Social	Sexual	Three or more dolphins rapidly swim around each other and appear to be "wrestling"
Head Jerk	Social	Agonistic	Dolphin abruptly moves their head vertically or horizontally
Head Jerk Recipient	Social	Agonistic	Another dolphin abruptly moves their head vertically or horizontally in the direction of the focal dolphin
Herd	Social	Agonistic	Dolphin is directing another dolphin's movements from behind
Herd Recipient	Social	Agonistic	Another dolphin is directing the focal dolphin's movements from behind
Hit	Social	Active	Dolphin contacts another dolphin using their rostrum or fluke in a quick manner
Hit Recipient	Social	Active	Another dolphin contacts the focal dolphin with their rostrum or fluke in a quick manner
Interact With Object	Solitary	Active	Dolphin independently interacts with an object
Interact With Habitat Object	Solitary	Active	Dolphin independently interacts with a part of the habitat (e.g., gate or outflow pipe)
Interact With Trainer	Solitary	Active	Dolphin independently interacts with or visually inspects a trainer
Interact With Bubble	Solitary	Active	Dolphin independently interacts with bubbles or moving water
Interact With Researcher	Solitary	Active	Dolphin independently visually inspects a researcher at an underwater viewing window
Interact With Guest	Solitary	Active	Dolphin independently visually inspects or interacts with guest at an underwater viewing window
Jaw Pop	Social	Agonistic	Dolphin produces a loud popping sound coupled with a fast open and close of the mouth
Jaw Pop Recipient	Social	Agonistic	Another dolphin produces a loud popping sound coupled with a fast open and close of the mouth in the direction of the focal dolphin
Mount Habitat	Solitary	Sexual	Dolphin mounts a wall, window or floor
Mounting	Social	Sexual	Dolphin mounts another dolphin by orienting its genital region to another dolphin's genital region or a dolphin inserts another dolphin's dorsal fin in their genital slit
Mounting Recipient	Social	Sexual	Another dolphin mounts the focal dolphin by orienting its genital region to the focal dolphin's genital region or another dolphin inserts the focal dolphin's dorsal fin in their genital slit
Mouthing	Social	Active	Dolphin has mouth around a conspecific's body, or around an object, but is not biting down
Mouthing Recipient	Social	Active	Focal dolphin has another dolphin's mouth around its body but the dolphin is not biting down
Nursing	Social	Active	Calf in position near mammary slits with rostrum near/in slits
Open Mouth	Social	Active	Dolphin separates its jaws to expose teeth

Open Mouth Recipient	Social	Active	Dolphin is the recipient of another dolphin that separates its jaws to expose teeth
Petting	Social	Active	Pectoral fin to pectoral fin rubbing where active movement is observed
Porpoise	Solitary	Active	Dolphin jumps partially out of the water (flukes remain in water) and re-enters the water head first
Social Interact With Object	Social	Active	Two or more dolphins simultaneously interact with an object
Social Interact With Habitat Object	Social	Active	Two or more dolphins simultaneously interact with a part of the habitat (e.g., gate or outflow pipe)
Social Interact With Trainer	Social	Active	Two or more dolphins simultaneously interact with or visually inspects a trainer
Social Interact With Bubble	Social	Active	Two or more dolphins simultaneously interact with bubbles or water
Social Interact With Researcher	Social	Active	Two or more dolphins simultaneously participate in close visual inspection of a researcher at an underwater viewing window
Social Interact With Guest	Social	Active	Two or more dolphins simultaneously participate in close visual inspection or interact with guest at an underwater viewing window
Spy Hop	Solitary	Active	Dolphin raises and lowers half of its body out of the water in a vertical position
Tactile/ Rub	Social	Active	Dolphin contacts or actively rubs another dolphin a manner that is not considered sexual contact
Tactile/ Rub Recipient	Social	Active	Another dolphin contacts or actively rubs the focal dolphin a manner that is not considered sexual contact
Tactile/ Rub Habitat	Solitary	Active	Dolphin contacts or actively rubs any part of their body on the habitat wall
Tongue	Solitary	Active	Dolphin manipulates their own tongue or sticks it out of their mouth

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