



Three orca check out the situation with a crab-eater seal on an ice floe in Antarctica.

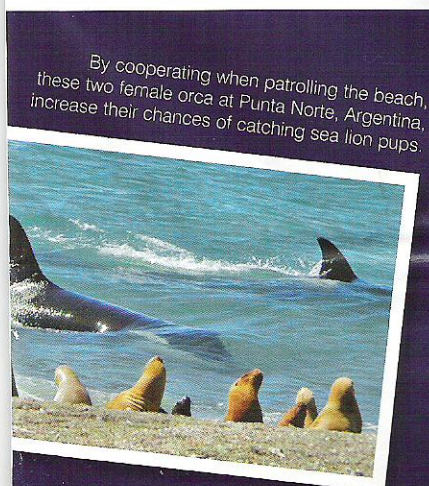
Four orca swim on their sides in a coordinated attack – making a large wave to wash the seal off the ice floe in Antarctica.

Was she remaining there to catch the seal if it tried to slip away, or was she giving the incoming orca a precise place to aim for? All four orca who coordinated the attack were emitting a string of bubbles as they approached at high speed. It is most likely this was a result of them whistling – again, perhaps to coordinate the attack? They were also swimming with their left sides upwards – facing the surface of the water.

By swimming on their sides they amplified the area of their bodies closest to the surface, that is the part that was deflecting the water and this would have increased the size of the wave they were creating. Once they had swept the seal into the water they carried it around for a while, even putting it back on another ice floe, but then washing it off again, to finally eat it. There was a very young calf as well as juvenile orca in the group, so it is possible that the event was also a training season as well as a late-night snack.

All this cooperation during the hunting and the sharing of the prey after they have caught it is a sure sign of a well adapted intelligent animal, which most likely even has its own culture.

Dr Ingrid N. Visser



By cooperating when patrolling the beach, these two female orca at Punta Norte, Argentina, increase their chances of catching sea lion pups.

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New engines for Orca Research boat

Dr Ingrid Visser has added a powerful new ally to her research project – a new Yamaha F150 four stroke outboard. Previously her boat had twin 50 Yamaha engines, but after 10 years of hard work it was time to retire them. The new engine comes with digital read-out gauges which allow her to monitor fuel consumption and adjust the tilt of the engine to get maximum fuel efficiency. Four stroke engines have low emissions and the low idle noise will minimize any interference within the orcas' hearing range. The new engine has also increased the cruising speed of the Orca Research boat, increasing the chances that Ingrid can find the orca when searching for them.



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Two fundraisers for the Orca Research Trust

Point View School (an Orca adopter) held a fundraising day for the Orca Research Trust, and children came to school dressed in 'orca theme'. Even the teachers got dressed up and ran a number of stalls selling cookies and cakes – in the shape of orca! A grand sum of NZ\$1,700 dollars were raised, and the funds were spent on the Orca Research Trust's new boat.



© Kate Norton

The Auckland Outboard Boating Club held a fishing competition and fundraising night, aimed primarily at women. The Nauti Girls Night theme was orca. The club rooms were decorated with orca memorabilia, and the foyer was converted into an underwater grotto. This fund raiser resulted in nearly NZ\$5,000 dollars being donated to the Orca Research Trust, which will be spent on running costs.

It is through fundraisers such as these, along with the Adopt an Orca program, that Ingrid's work and the long-term studies of these amazing animals can continue.

A young orca, about 4 years old, watches two experienced orca hunting for rays in shallow waters off New Zealand. It may be many years before this orca will hunt by itself, but typically they will hunt together, even when adults.

McRay, McMako, McSeal or McShare?

Depending on where you go around the world, orca eat different things, but there is often one theme in common – sharing their food once they catch it.

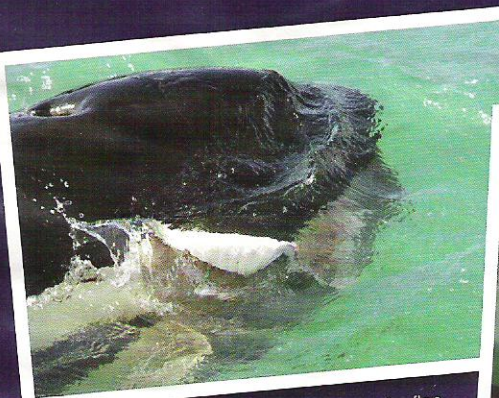
Here in New Zealand they feed on elasmobranchs – rays and sharks. To catch rays, orca employ a range of methods – including tossing them around like frisbees, delicately pulling on their tails when they are wedged under rocks, or frantically chasing them around in shallow waters. And all of these methods have risks involved – either getting stung by the rays or getting stuck on the beach. But once caught the orca will share the ray. Having another orca hold the ray while they rip off the wings sure makes it easier. Young orca spend years watching older orca hunting and it may be many years before they catch one on their own.

Catching sharks can be even more dramatic, involving high speed rushes, sudden spins and even karate chops. These techniques have probably developed as ways to avoid being bitten by the sharks – they know they are on the menu and will do anything to try and escape, including biting an orca that is 20 times their size. When the orca use a karate-chop, they swing their heads away from the shark and after raising their tails high into the air they bring them down with a great force – and hit the shark. As the orca swims away another orca takes its place

and does the same thing. It is possible this is also a training method – an experienced orca takes the first hit to disorientate or injure the shark and the next orca has a practice go.

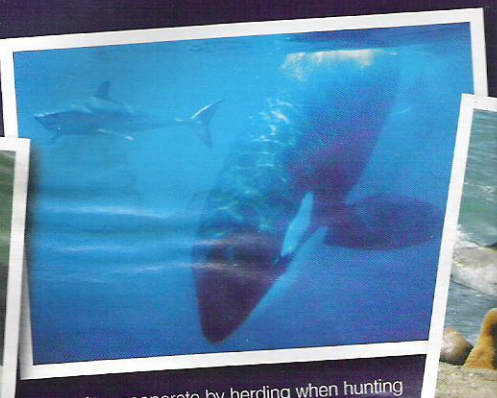
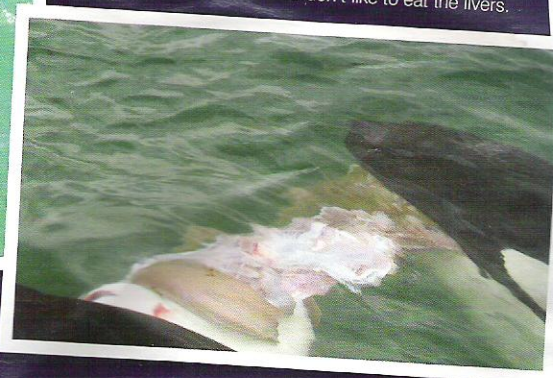
In Argentina, where the orca come onto the beach to grab seal lion pups, they will often cooperate during the hunt. In particular two female orca have perfected their style. They patrol up and down the beach; one of them just slightly off-shore than the other. When they 'hear' a pup in the water they make a sudden turn into the beach – with one of the orca attempting to grab the pup and the other 'guarding' off to the same direction as the pup was first heading. Most of the time, the female who is doing the attacking will get the pup, but if not then she has a back up and it works out really well (ok, so not so well for the pup!).

In January 2006 I had the chance to film one of the most obvious examples of coordination and cooperation by orca. In this instance I was on the bow of a ship, looking down into the water. Despite it being nearly midnight, the sun was still up, albeit not shining bright, but I did manage to get some remarkable footage. A few frame-grabs off the footage clearly show four orca cooperating to get a seal off a low-lying ice floe. In fact, if you look closely you can see a few things – one is that there is a 'burst' of bubbles between the four orca – this in fact comes from a fifth orca who had remained 'in position' while the others backed off to prepare to rush forward and create the wave which ultimately washed the seal off the ice.



An orca with a ray in its mouth. You can see the flap of the ray's wing, against the side of the orca's face.

Two orca share an upside-down ray. The far orca is pulling a wing off. You can see the ray liver as the large brown organ in the middle. The orca don't like to eat the livers.



Orca often cooperate by herding when hunting sharks. Not wanting to get too close in case the shark bites, they take turns in rushing it.