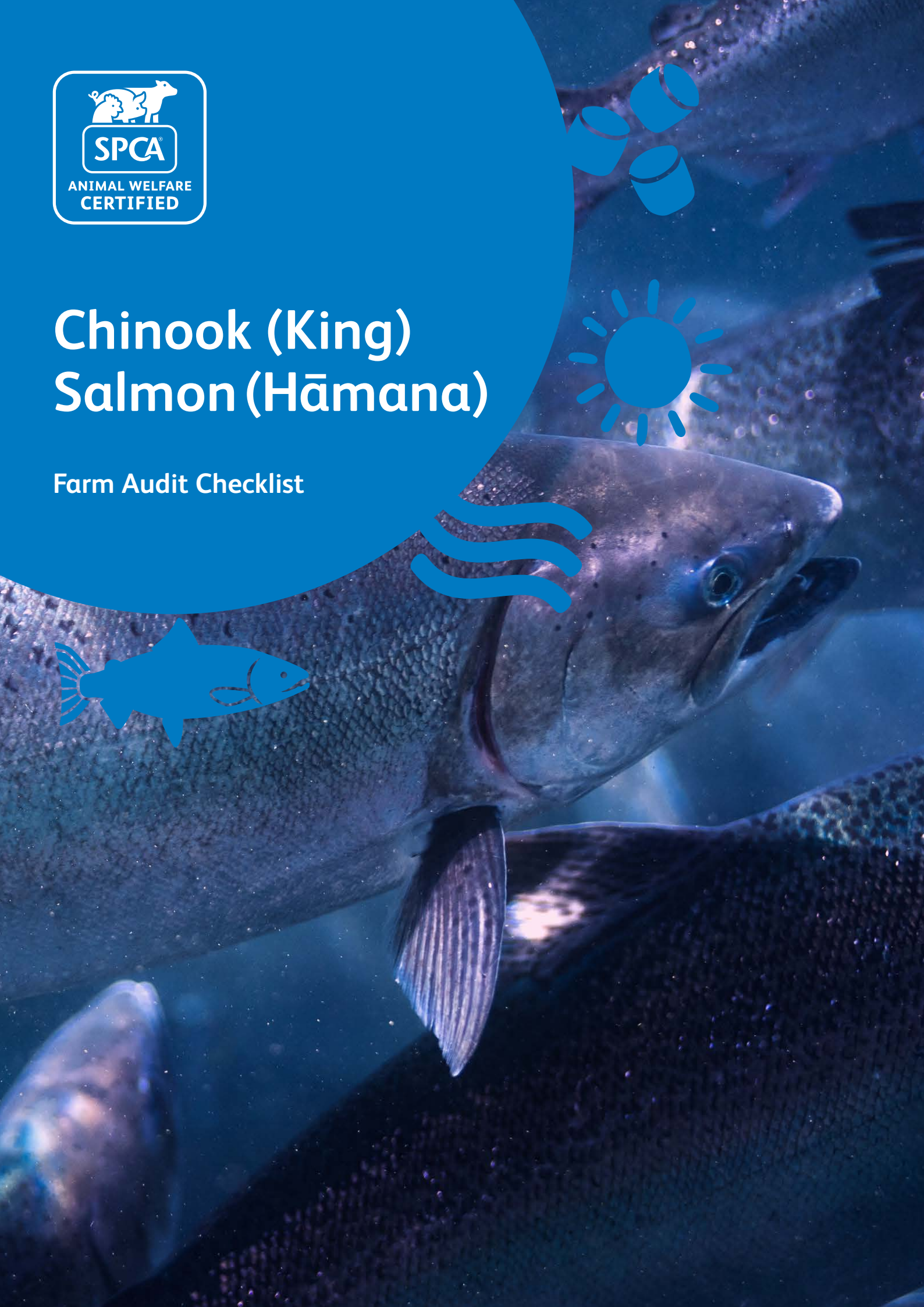
SPCA
ANIMAL WELFARE CERTIFIED

Chinook (King) Salmon (Hāmana)

Farm Audit Checklist



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Version 1 – 2022

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Introduction

This Farm Audit Checklist for Chinook (King) salmon provides a summary of the relevant SPCA Certified standards and is intended to help members assess their farm and prepare for an audit.

It is not exhaustive and not intended as a replacement for the standards, which should be read and understood before this checklist is used.

In addition, while completing this checklist and addressing any problems it raises, will increase the likelihood of a successful audit, it is not a guarantee of success.

Please do not send this document to SPCA Certified. It is provided purely for your own reference.

Date of assessment:		**Procedures to be audited at site(s):**	○Stripping ○Spawning ○Egg picking/shocking ○ Crowding ○Culling/euthanasia ○Handling ○ Smolt testing ○Pumping ○Grading ○ Vaccinations ○ pre-transfer ○ Transport ○post-transfer ○ Net cleaning ○ Slaughter (harvest) ○ Feeding
Date of assessment:		**Life-stage(s) of fish at sites:**	
Overall comments:			

Reference Standard	Summarised standard	Check (Y/N)	Comments
	Good Nutrition		
	Feed Contents		
N1 & N2	Ingredients and size of feed pellets must be appropriate for the species and life-stage and sourced from independently certified manufactures.		
N3	Feed must not contain growth regulators or hormones.		

	Feed Methods		
N4, N6 & N7	Feed programmes must be documented for each life-stage.		
N5	Feed must be dispensed and distributed in a way that reduces competition for the feed amongst the fish.		
	Feed Behaviours		
N8 & N9	Fish must be observed during feeding and behaviour documented.		
	Feed Withdrawal		
N10 & 11	Feed withdrawal periods must be in accordance with veterinary recommendation and duration kept as minimal as possible. All feed withdrawal decisions must be made with consideration of the welfare risks, benefits and alternative strategies.		
N12-N14	Periods of feed withdrawal must be documented and justified and alternative strategies implemented if the withdrawal period result in negative fish health and welfare outcomes.		
	Feed Equipment and Storage		
N15	Feed must be stored appropriately.		

N16-18	Feed equipment and storage containers must be well maintained and cleaned between lots of feed. Prior to use, feed must be visually inspected.		
	First Feeding		
N19-N22	Feeding must be initiated when approximately 90% of alevins have "buttoned-up" and must be monitored frequently to ensure success of first feeding and prompt removal of uneaten feed.		

Reference Standard	Summarised standard	Check (Y/N)	Comments
	Good Physical Environment		
	Hatcheries/Nurseries		
E1	Eggs and juvenile fish must be either produced 'in house' or supplied by an SPCA Certified farm.		
E2 & E3	Maximum stocking densities must be set at level to allow maintenance of optimal water quality and provide adequate space to facilitate normal behaviours.		
E4-E10	Water quality parameters must be monitored and recorded and a contingency plan established to mitigate any unanticipated deviations from optimal range.		

E11	Efforts must be made to reduce noise pollution and vibrations in the enclosures and surrounding environment.		
E12-E15	Light levels must be set to facilitate the salmon's ability to see feed. Gradual light changes from dark to light, and vice versa must be applied and rapid changes avoided. Where appropriate protection from UV light must be provided.		
	Eggs		
E16-E20	Eggs must be incubated in darkness, water temperature must be kept within 6- 14˚C and at least 90 % oxygen saturation must be maintained.		
E21	Shocking must only be carried out by trained members of staff. Eggs must not be shocked until the eye spots are visible and the chosen method must minimise mortalities of viable eggs.		
E22	Egg trays must be designed to minimise movement of the eggs		
E23-E25	Eggs must be checked daily. Where picking is practised, dead/unviable eggs must be removed with minimum disturbance to remaining eggs. Green eggs must not be disturbed for at least 24hrs after placement.		

	Alevin		
E26	Alevins must have access to an appropriate hatching substrate that provides a secure environment and facilitates normal behaviours.		
E27 & E28	Nets must not be used to transfer alevins weighing less than 0.5 g.		
E29	Alevins must be monitored daily and any mortalities removed and recorded.		
E30	Light levels must be kept at low intensities/ preferably dark.		
	Fry		
E31	The load of suspended solids must allow visibility to the bottom of the enclosure.		
E32	Grading must not occur before the majority of fish weigh a minimum of 1-2 g.		
	Parr		
E33	Parr must be observed for signs of aggression and action taken to reduce social stress if aggression occurs.		
E34	Length of feed withdrawal prior to grading parr must be justified and durations kept as minimal as possible.		

	Smolt		
E35 & E36	Smolts must not be transferred to seawater until all fish have completed smoltification. Length of feed withdrawal prior to smolt transfer must be justified and durations kept as minimal as possible		
E37	If used, sodium potassium ATPase tests must only be conducted on fish once they have been humanely euthanised.		
E38 & E39	After seawater transfer, smolts must not be handled for a least 4 months. Percentage of runting post-transfer must be recorded weekly.		
	Grow-Out Site		
E40 & E43	Water temperature and oxygen saturation must be monitored and recorded daily. If water quality parameters, are outside the optimal range, non-urgent procedures that may cause additional stress must be postponed.		
E41 & E42	Maximum stocking density in pens must be within 10- 20 kg/m3 and be evaluated at the end of each production cycle.		
E44	Efforts must be made to reduce background noise/ potential acoustic stresses in the surrounding environment		

E45 & E46	Fish must be provided with access to the surface. If submergence is required for health and welfare reasons, it must be implemented for a short period and at an appropriate depth.		
E47	Manipulation of photoperiods to control sexual maturation must only be performed during appropriate times of the year.		
	Equipment		
E48, E49 & E53	The locations of tanks and enclosures must be carefully considered with regard to fish welfare. Enclosures and equipment must be designed and maintained to minimise the risk of injury or disease, provide protection from predators and prevent fish escaping.		
E50-E52	Emergency systems must be fully operational and maintained as required. Procedures must be in place to manage equipment failures and other breakdowns that may impact on fish welfare.		
	Net Cleaning and Maintenance		
E54-E56	Enclosure nets must be cleaned frequently. A biofouling management plan must be developed.		
E57 & E58	Timing of net cleaning procedures must take into account proximity to other husbandry procedures and consideration of environmental conditions.		

E59	The use of copper-based antifoulants are not permitted.		
E60 & E61	Enclosure nets must be inspected regularly and maintained accordingly. Nets must be appropriately tensioned and weighted to prevent distortion.		
E62	Nets that are used to handle fish must be knot free.		
	Site Selection		
E63	The process of site selection must include a comprehensive assessment of potential health and welfare risks to the fish.		
	Predator Management		
E64-E67 & E70	Physical exclusion must be the primary means of protecting fish. Acoustic deterrent devices (ADD's), electronic seal scarers, seal crackers, models of seal 'predators' and any lethal forms of predator management are not permitted. A site specific predator control plan must be developed.		
E68 & E69	Top nets must be of a mesh size that deters but does not ensnare birds. Appropriate net tension must be maintained and net maintenance regimes enforced.		

E71 & E72	A record must be kept of all significant wildlife interactions. If a predator attack has taken place, the fish in the pen must be checked for signs of injury.		
E73	Regular removal of dead fish must occur.		
	Emergency Preparedness		
E74 & E75	A written emergency response and preparedness plan must be created, reviewed annually and updated as appropriate.		
E76 & E77	Mitigation strategies for algal blooms and routine monitoring for jellyfish at a site specific level must be developed and incorporated into management practices.		
	Transport – General		
E78 & E79	All journeys must have a transport plan and records. Whenever possible, fish must not be transported in poor road/sea conditions.		
E80 & E81	All staff in charge of transporting fish must be specifically trained. All equipment used for transport must be fit for the purpose of transporting fish.		
E82-E85	Only healthy fish can be transported. Fish behaviour and/or water quality parameters must be continuously monitored and recorded during transport.		

E86	The maximum stocking density must be determined prior to loading and be set with consideration for water quality maintenance, fish behaviour and health.		
E87 &E88	Unloading fish must be done in a manner that avoids injuring the fish. Any fish that die during transportation must be removed and recorded upon arrival.		
	Transport – Road		
E89 & E91	Tanks must be insulated to allow for a constant water temperature throughout the journey. Oxygen saturation levels must be continuously monitored.		
E90	Transporters must drive in a manner that minimises the risk of sloshing, injury and uncontrolled movement of fish.		
E92-E95	Fish should be unloaded from tanks through valves, rather than netting. Valves must be suitable for more than one fish to pass through at any one time. There must be no delays in unloading the fish unless justified.		
	Transport – Wellboat		
E96-E101	Wellboats should be operated on an open-valve system and fitted with moveable bulkheads, and equipped with water quality monitoring and fish monitoring equipment.		

E102-E105	Wells must contain a sufficient amount of water before loading fish to prevent injuries. Fish must be loaded and unloaded from the vessel via pumping. There must be no unnecessary delays in unloading fish.		
E104	All crowding, loading and unloading of fish must be recorded using CCTV.		
	Transport – Pushing/towing pens		
E106	Nets must be sufficiently cleaned to prevent biofouling from compromising fish welfare during transport.		
E107 & E108	Pushing/towing speed must be appropriate for the size of the fish and swimming speed. Pen nets must be tensioned to avoid net distortion, entanglement or injury.		

Reference Standard	Summarised standard	Check (Y/N)	Comments
	Good Health		
	Animal health plan		
H1 & H2	An animal health plan must be developed in collaboration with a registered veterinarian. It must be life-stage and site specific and reviewed annually.		

	Fish Health Monitoring		
H3 & H4	A programme must be developed to monitor and document the health status of fish at each life stage.		
	Medicines		
H5	Prophylactic use of antibiotics and other veterinary medicinal products is not permitted.		
	Vaccination (immunisation)		
H6-H10	Prior to vaccination, there must be a documented vaccination programme in the Animal Health Plan. All vaccination procedures must be recorded. Vaccination must only be performed by trained members of staff.		
H11-H14	Vaccination of fish weighing less than 30g must be by immersion method only. Fish health status must be assessed before grading and vaccination. For vaccination by injection, fish must be anaesthetised before being vaccinated.		
H15-H16	Fish must be monitored for two weeks after vaccination.		

	Anaesthesia		
H17-H20 & H22	Anaesthesia must only be administered by specifically trained personnel and used according to the manufacturers' instructions. The optimal anaesthetic dosage at different water temperatures must be identified.		
H21 & H25	Fish behaviour must be monitored whilst under anaesthesia and during recovery. Treatment should cease if there are any signs of reduced welfare.		
H23 & H24	Oxygen levels, within the anaesthetic bath, must be maintained between 105 and 120 % saturation. Anaesthetic baths must be periodically refreshed.		
	Humane Slaughter (Harvest) – Pre-slaughter		
H26-H28	Stunning and killing equipment must be operated, inspected and maintained by trained personnel. Slaughter systems must be tested before each use. There must be control and backup equipment for stunning and bleeding.		
H29-H32	Pre-slaughter handling must be kept to a minimum. Crowding must never exceed two hours. Pumping distance must be kept as short as possible and with an appropriate pumping speed.		

	Humane Slaughter (Harvest) – Stunning		
H33-H38	Fish must be stunned prior to bleeding. Use of ice slurries and CO2 are not permitted as a method of stunning and/or slaughter.		
H39-H42	Fish must be monitored immediately after stunning, to assess the effectiveness of the stun. Staff involved in stunning/slaughter must be trained to recognise signs of effective stunning. Any fish that have not been effectively stunned, must be re-stunned immediately.		
	Humane Slaughter (Harvest) – Slaughter		
H43-H45	Bleeding must occur no more than 10 seconds following stunning. Fish must be unconscious during bleeding and remain unconscious until death.		
H46 & H47	A CCTV system must be installed to provide clear footage of the stunning/slaughter process. Footage must be regularly reviewed and saved for a minimum of two-weeks.		
	Euthanasia		
H48-H51	Where accessible, any fish found to be injured, experiencing pain or showing symptoms of disease must be immediately treated or euthanised by specifically trained staff.		

H52-H54	Approved euthanasia methods include a non-recoverable percussive blow to the head and an overdose of a suitable anaesthetic using immersion. The euthanasia method implemented must be appropriate for the life stage of the fish.		
H55 & H56	Female broodfish must be euthanised prior to stripping. Male broodfish must be anaesthetised or euthanised prior to stripping, if procedure length is >15 seconds.		
H57 & H58	If using anaesthetics, parameters need to be set correctly to ensure fish are killed effectively and efficiently. Fish must be checked to ensure they are dead.		
	Mortality		
H59 & H61	Mortality rates for each life-stage must be recorded. Any fish found dead, must be disposed of immediately.		
H60	Regular sampling of mortalities for necropsies must be performed.		
	Breeding		
H62-H63	Breeding procedures must not adversely affect the health and welfare of fish. The farming of triploid salmon is not permitted.		

H64	Stripping of male broodfish more than twice over one season is not permitted.		
	Biosecurity		
H65	A comprehensive biosecurity plan must be developed and implemented.		

Reference Standard	Summarised standard	Check (Y/N)	Comments
	Appropriate Behavioural Interactions		
	Fish Observations		
B1-B3	Fish must be observed at least daily and remedial actions taken if problems are identified. Descriptions of abnormal behaviours specific to life-stage and farming system must be developed.		
B4-B6	Fish distribution within their rearing environment must be monitored. Fish behaviour must be monitored by a designated member of staff during husbandry procedures.		
	Handling – General		
B7-B9	Fish must never be out the water for longer than 15 seconds, unless anaesthetised. Fish must never be placed on dry surfaces or handled with dry hands. Wherever possible, fish must be handled in water.		

B10-B12	Fish must not be subjected to impact, pressure or strain when handled. Fish should not come into contact with sharp edges, rough or absorptive surfaces.		
	Handling – Pumping		
B13 & B14	Only appropriate equipment fit for the purpose of transporting fish must be used and where appropriate, pipes must be transparent.		
B15–B18	Pumping speed must be controlled so that the fish swim in a smooth and calm motion during pumping and do not appear exhausted or damaged on exit. Pumping distances/duration must be kept to a minimum.		
B19-B22	All pipes must be smooth with swept bends and of a diameter which is appropriate for the size of the fish. Only healthy, robust fish can be pumped and fish must not be overcrowded in the pump.		
B23 & B26	Oxygen saturation levels at input end must be maintained above 80 %. Water in the pipe must be observed for signs of fish damage.		
B24 & B25	The pump must be checked during breaks and at the end of the procedure. A procedure must be developed and implemented to ensure that all fish are removed at the end of pumping or if a breakdown occurs.		

	Handling – Crowding		
B27- B29	Efforts must be made to reduce the frequency of crowding events.		
B30	Oxygen saturation levels must be continuously monitored during crowding and maintained above 80%.		
B31-B34	Fish must not be crowded for more than two hours. Crowding devices/nets must be moved at a slow and steady pace and efforts made to avoid "pockets" or shallow areas where fish can get stuck. Nets must be used to crowd a portion of the population rather than crowding the whole enclosure.		
B35-B37	Crowding devices/nets must be constructed of knotless mesh and be of an appropriate size for the fish to prevent escapes or becoming entangled. Brail nets must not be used unless for the purposes of sample weighing, in which case they must be 'wet' (water filled) brail nets.		
	Handling – Grading		
B38- B40	The grading system must be suitable for the size and life-stage of the fish and be situated in such a way that fish can be observed at all times.		

B41- B43	Fish health must be assessed before grading. Only healthy fish must be subjected to the grading process.		
B44 & B45	Fish must only be graded when it is essential and reasons for grading must be recorded. A grading plan must be developed, that is life-stage and site specific and must be a part of the Animal Health Plan.		
	Behavioural Enrichment		
B46	Fish must be able to move freely in their enclosure to explore natural or induced environmental gradients.		
B47	If any enrichment is added to the fishes' environment it must be monitored for its effect on fish behaviour.		
	Management		
B48 & B58	Managers must ensure that all staff responsible for fish adhere to the SPCA Certified standards, the relevant Codes of Welfare, regulations/Acts, and must be fully aware of their personal roles and responsibilities.		
B49	There must be a written policy that allows employees to report any concerns they have regarding situations that negatively impact fish health and welfare.		

B50 & B51	Specific to their area of work and responsibilities, staff must be able to demonstrate a good working knowledge of the health and behaviour of Chinook salmon.		
B52	Staff must be trained in fish handling techniques, including netting and crowding, that minimise stress and pain.		
B53- B56	Staff involved in the slaughter process, vaccinations/ anesthesia, predator management and/or transportation must undergo specific training in these areas.		
B57	Records of staff training, including periodic refresher courses where applicable, must be maintained and be available for inspection.		

END OF ASSESSMENT

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