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PANDA

Permanent network to strengthen expertise on infectious diseases of aquaculture species and scientific advice to EU policy

Coordination Action

Scientific support to policies

Work Package 2

Risk analysis of exotic, emerging and re-emerging disease hazards

Annex 5: PANDA list, comparison with the OIE and 2006/88/EC

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Dissemination Level		
PU	Public	PU
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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Annex 5 - PANDA list, comparison with the OIE and 2006/88/EC

5.1 PANDA WP2 Disease Hazard List

Exotic Diseases		
	Disease agent	Susceptible species
Fish	Epizootic haematopoietic necrosis virus	<i>Perca fluviatilis</i> and <i>Oncorhynchus mykiss</i> (EHNV)
	Red sea bream iridovirus	<i>Pagrus major</i> , <i>Seriola quinqueradiata</i> , <i>Seriola</i> spp., <i>Lateolabrax</i> sp., <i>Oplegnathus fasciatus</i> , <i>Epinephelus malabaricus</i> , <i>Epinephelus</i> spp., <i>Lates calcarifer</i> and <i>Thunnus thynnus</i> , as well as possibly Perciformes, Pleuronectiformes and Tetradontiformes
	<i>Streptococcus agalactiae</i>	<i>Sparus aurata</i> , <i>Liza klunzingeri</i> , <i>Pampus argenteus</i> , <i>Oreochromis</i> spp.
	<i>Trypanoplasma salmositica</i>	Salmonids and other freshwater fish
	<i>Ceratomyxa shasta</i>	Salmonidae
	<i>Parvicapsula pseudobranchicola</i>	<i>Salmo salar</i>
	<i>Neoparamoeba pemaquidensis</i>	<i>Salmo salar</i>
	<i>Aphanomyces invadans</i>	<i>Anguillidae</i> spp., <i>Caranx</i> spp., <i>Plecoglossus altivelis</i> , <i>Clarius</i> spp., <i>Channa striatus</i> , Cichlidae, Cyprinidae, <i>Lates calcarifer</i> , <i>Mugil cephalus</i> , Siluridae and many other different species (incl. possibly <i>Brevoortia tyrannus</i>)
Mollusc	<i>Perkinsus marinus</i>	<i>Crassostrea virginica</i> , <i>C. gigas</i> and <i>C. ariakensis</i>
	<i>Marteilioides</i> spp. (<i>M. chungmuensis</i> : Marteilioidosis)	<i>Crassostrea gigas</i>
Crustacean	Yellowhead	<i>Penaeus monodon</i> , <i>P. japonicus</i> , <i>P. vannamei</i> , <i>P. setiferus</i> , <i>P. aztecus</i> , <i>P. duorarum</i> , <i>P. stylirostris</i> , <i>Palaemon styliiferus</i> , <i>Fenneropenaeus merguensis</i> , <i>Metapenaeus ensis</i> , <i>Euphausia</i> spp. and <i>Acetes</i> spp.
	Taura	<i>Penaeus vannamei</i> , <i>P. stylirostris</i> , <i>P. setiferus</i> , <i>P. schmitti</i> , <i>P. aztecus</i> , <i>P. duorarum</i> , <i>P. chinensis</i> , <i>P. monodon</i> and <i>P. japonicus</i>
	Infectious hypodermal and haematopoietic necrosis	<i>Penaeus vannamei</i> , <i>P. stylirostris</i> , <i>P. occidentalis</i> , <i>P. monodon</i> , <i>P. semisulcatus</i> , <i>P. californiensis</i> , <i>P. japonicus</i> , <i>P. setiferus</i> , <i>P. aztecus</i> and <i>P. duorarum</i>
	<i>Coxiella cheraxi</i> (crayfish systemic rickettsiosis)	<i>Cherax quadricarinatus</i>
Amphibian	Ranavirus ¹	Amphibians

Non-Exotic Diseases		
	Disease agent	Susceptible species
Fish	KHV	<i>Cyprinus carpio</i>
	ISAV	<i>Oncorhynchus kisutch</i> , <i>Salmo salar</i> , <i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Clupea harengus</i> and <i>Lepeophtheirus salmonis</i>
	<i>Streptococcus iniae</i>	<i>Oncorhynchus mykiss</i> , <i>Paralichthys olivaceous</i> , <i>Sardinops melanostictus</i> , <i>Brevoortia patronus</i> , <i>Morone saxatilis</i> , Cichlidae and <i>Lates calcarifer</i>
	<i>Lactococcus garviae</i>	<i>Oncorhynchus mykiss</i> , <i>Seriola</i>

		<i>quiqueradiata</i> and <i>Coris aygula</i>
	<i>Gyrodactylus salaris</i>	<i>Salmo salar</i> , <i>Oncorhynchus mykiss</i> , <i>Salvelinus alpinus</i> , <i>S. fontinalis</i> , <i>Thymallus thymallus</i> , <i>Salvelinus namaycush</i> and <i>Salmo trutta</i>
Mollusc	<i>Candidatus Xenohaliotis californiensis</i>	<i>Haliotis</i> spp. (e.g. black abalone <i>H. cracherodii</i> , red abalone <i>H. rufescens</i> , pink abalone <i>H. corrugata</i> , green abalone <i>H. fulgens</i> and white abalone <i>H. sorenseni</i>)
	<i>Nocardia</i> spp. (Pacific oyster nocardiosis)	<i>Crassostrea gigas</i> and possibly <i>Mytilus edulis</i>
	<i>Perkinsus olseni/atlanticus</i>	<i>Haliotis ruber</i> , <i>H. cyclobates</i> , <i>H. scalaris</i> , <i>H. laevigata</i> , <i>Anadara trapezia</i> , <i>Ruditapes philippinarum</i> and <i>Austrovenus stutchburyi</i> / <i>Ruditapes decussatus</i>
Crustacean	White spot	<i>Penaeus japonicus</i> , <i>P. chinensis</i> , <i>P. indicus</i> , <i>P. merguensis</i> , <i>P. monodon</i> , <i>P. setiferus</i> , <i>P. stylirostris</i> , <i>P. vannamei</i> , <i>P. aztecus</i> and <i>P. duodarum</i>
Amphibian	Ranavirus ¹	Amphibians
	<i>Batrachochytrium dendrobatidis</i> (amphibian chytridiomycosis)	Amphibians

¹It is thought that several amphibian Iridoviridae are exotic but others are already present in the EU and appear to be emerging

5.2 Diseases listed only by PANDA and the OIE but not 2006/88

Exotic Diseases		
	Disease	Susceptible species
Fish	Red sea bream iridovirus	<i>Pagrus major</i> , <i>Seriola quinqueradiata</i> , <i>Seriola</i> spp., <i>Lateolabrax</i> sp., <i>Oplegnathus fasciatus</i> , <i>Epinephelus malabaricus</i> , <i>Epinephelus</i> spp., <i>Lates calcarifer</i> and <i>Thunnus thynnus</i> , as well as possibly Perciformes, Pleuronectiformes and Tetrodontiformes
Crustacean	Infectious hypodermal and haematopoietic necrosis	<i>Penaeus vannamei</i> , <i>P. stylirostris</i> , <i>P. occidentalis</i> , <i>P. monodon</i> , <i>P. semisulcatus</i> , <i>P. californiensis</i> , <i>P. japonicus</i> , <i>P. setiferus</i> , <i>P. aztecus</i> and <i>P. duorarum</i>

Non-Exotic Diseases		
	Disease	Susceptible species
Fish	<i>Gyrodactylus salaris</i>	<i>Salmo salar</i> , <i>Oncorhynchus mykiss</i> , <i>Salvelinus alpinus</i> , <i>S. fontinalis</i> , <i>Thymallus thymallus</i> , <i>Salvelinus namaycush</i> and <i>Salmo trutta</i>
Mollusc	<i>Candidatus Xenohaliotis californiensis</i>	<i>Haliotis</i> spp. (e.g. black abalone <i>H. cracherodii</i> , red abalone <i>H. rufescens</i> , pink abalone <i>H. corrugata</i> , green abalone <i>H. fulgens</i> and white abalone <i>H. sorensen</i>)
	<i>Perkinsus olseni/atlanticus</i>	<i>Haliotis ruber</i> , <i>H. cyclobates</i> , <i>H. scalaris</i> , <i>H. laevigata</i> , <i>Anadara trapezia</i> , <i>Ruditapes philippinarum</i> and <i>Austrovenus stutchburyi</i> / <i>Ruditapes decussatus</i>

5.3 Diseases listed by PANDA, the OIE and 2006/88

Exotic Diseases		
	Disease	Susceptible species
Fish	Epizootic haematopoietic necrosis virus	<i>Perca fluviatilis</i> and <i>Oncorhynchus mykiss</i> (EHNV)
	<i>Aphanomyces invadans</i>	<i>Anguillidae</i> spp., <i>Caranx</i> spp., <i>Plecoglossus altivelis</i> , <i>Clarius</i> spp., <i>Channa striatus</i> , Cichlidae, Cyprinidae, <i>Lates calcarifer</i> , <i>Mugil cephalus</i> , Siluridae and many other different species (incl. possibly <i>Brevoortia tyrannus</i>)
Mollusc	<i>Perkinsus marinus</i>	<i>Crassostrea virginica</i> , <i>C. gigas</i> and <i>C. ariakensis</i>
Crustacean	Yellowhead	<i>Penaeus monodon</i> , <i>P. japonicus</i> , <i>P. vannamei</i> , <i>P. setiferus</i> , <i>P. aztecus</i> , <i>P. duorarum</i> , <i>P. stylirostris</i> , <i>Palaemon styliferus</i> , <i>Fenneropenaeus merguensis</i> , <i>Metapenaeus ensis</i> , <i>Euphausia</i> spp. and <i>Acetes</i> spp.
	Taura	<i>Penaeus vannamei</i> , <i>P. stylirostris</i> , <i>P. setiferus</i> , <i>P. schmitti</i> , <i>P. aztecus</i> , <i>P. duorarum</i> , <i>P. chinensis</i> , <i>P. monodon</i> and <i>P. japonicus</i>

Non-Exotic Diseases		
	Disease	Susceptible species
Fish	KHV	<i>Cyprinus carpio</i>
	ISAV	<i>Oncorhynchus kisutch</i> , <i>Salmo salar</i> , <i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Clupea harengus</i> and <i>Lepeophtheirus salmonis</i>
Crustacean	White spot	<i>Penaeus japonicus</i> , <i>P. chinensis</i> , <i>P. indicus</i> , <i>P. merguensis</i> , <i>P. monodon</i> , <i>P. setiferus</i> , <i>P. stylirostris</i> , <i>P. vannamei</i> , <i>P. aztecus</i> and <i>P. duodarum</i>