

Inventory of existing aquaculture sea water based research facilities in Europe

(U: University; PUB RI: public research institute; PRIV RI: private research institute; COMP: company); blue areas are sea-based facilities.

	CITY	OWNER	NAME INFRASTRUCTURE	WEB SITE	TYPE INFRASTRUCTURE	EXPERTISE
1	CRO Split	PUB RI	Institute of Oceanography and Fisheries	www.izor.hr	specialised laboratories	mariculture, environmental impact, physiology, population genetics, reproduction
2	CRO Dubrovnik	U	University of Dubrovnik, Department of Aquaculture	www.unidu.hr	shellfish hatchery, ongrowing fields, fish culture unit	shellfish, production optimisation
3	CYP Nicosia	PUB RI	Department of Fisheries and Marine Research (DFMR)	www.moa.gov.cy/moa/agriculture.nsf	land based marine aquaculture research station for conducting applied research	diversification, fish biology, benthic ecology, pollution
4	D Kiel	PUB RI	IFM-GEOMAR	http://www.ifm-geomar.de/index.php?id=2274&L=1#8680	Land-based experimental recirculation systems for applied research	Integrated recirculation systems; life support system technology; fish physiology
5	D Büsum	PUB RI	GMA (Marine Aquaculture Society)	http://www.gma-buesum.de/	Marine Aquaculture Research and Test Unit (under construction)	To be defined
6	D Bremerhaven	PUB RI	AWI Alfred-Wegener-Institut für Polar- und Meeresforschung	http://www.awi.de/en/research/new_technologies/marine_aquaculture_maritime_technologies_and_iczm/	Equipment for experimental offshore mariculture research	Offshore windfarm-mariculture interaction
7	D Born	PUB RI	Landesforschungsanstalt für Landwirtschaft und Fischerei Mecklenburg-Vorpommern	http://www.lfamv.de	Land-based Mariculture recirculation systems	Warm and brackish water recirculation technology;

							restocking of threatened Baltic Sea Species
8	D	Hohenheim	U	Institute of Animal Production in the Tropics and Subtropics	http://www.uni-hohenheim.de/i3ve/00000700/00848041.htm	Land-based tropical recirculation system; Respirometer unit; Biochemical laboratory	Nutrition physiology; food web analyses based on natural isotopes
9	D	Büsum	COMP	ECOMARES GmbH	http://www.ecomares.de/eng/main.php	Land-based recirculation systems	Mariculture engineering; production of turbot and shrimps
10	D	Uetze-Eltze	COMP	Erwin Sander Elektroapparatebau GmbH	http://www.aqua-sander.de	Land-based recirculation System	Mariculture engineering; protein skimmer; ozone systems
11	DK	Charlottenlund	PUB RI	Danish Institute for Fisheries Research (DIFRES)	www.difres.dk	on-land experimental facilities with recirculation systems, laboratories for digestibility, physiology	nutrition physiology of fish larvae, use of live feed, health and welfare, nutrition, growth (advice to Ministry)
12	DK	Hirtshals	PRIV RI	SINTEF North Sea Centre Flume Tank	www.sintef.dk	on-land experimental facility for testing models of fishing gear	fishing technology
13	EL	Heraklion; Faros	PUB RI	Hellenic Centre for Marine Research (HCMR), Institute of Aquaculture	www.hcmr.gr/english_site/institutes/aquaculture	land based indoor and outdoor (Faros field station) facilities: larval rearing, nursery, weaning, pre-growing and broodstock	broodstock management, hatchery technology, nutrition, control of fish development, fish diseases

14	ES	El Toruño, Puerto de Santa María (Cádiz), Agua del Pino (Huelva)	PUB RI	Centro de Investigación y Formación Pesquera y Acuícola (CIFPA), Regional Government of Andalusia	www.juntadeandalucia.es	land based facilities, specialised laboratories, pilot plants for flat fish production	optimisation of culture systems, diversification of species (fish, molluscs, cephalopods), genomics, reproduction and larval breeding
15	ES	Vilanova de Arousa	PUB RI	Centro De Investigacións Mariñas. Xunta de Galicia	www.cimacoron.org	land based facilities, experimental hatchery facilities	production optimisation of fish and molluscs, new species, pathology and parasitology, identification of mussel larvae abundance; coastal oceanography
16	ES	Punta do Couso, Aguiño	PRIV RI	Centro tecnoloxico Gallego de Acuicultura - CETGA, Cluster de la Acuicultura de Galicia	www.cetga.org	aquaculture pilot plant: land based facilities for larval prod, growout and reproduction;	pathology, feeding, Artemia, automation, effluent treatment, new species
						specialised laboratories	
17	ES	Mazarrón	PUB RI	Centro Oceanográfico de Murcia - Instituto Español de Oceanografía	www.mu.ieo.es/mazarron/visita.html	indoor land based rearing facilities for larvae, juveniles, on growing and broodstock; specialised laboratories	nutrition, reproduction, culture techniques for new species

18	ES	Vigo, Castellón, Puerto Real - Cádiz, Barcelona	PUB RI	Consejo Superior de Investigaciones Científicas (CSIC) - Instituto de Investigaciones Marinas; Instituto de Acuicultura Torre de la Sal; Instituto de Ciencias Marinas de Andalucía; Institut de Ciències del Mar.	www.csic.es (www.iim.csic.es , www.iats.csic.es , www.icman.csic.es)	land based rearing facilities for fish, molluscs and crustaceans and specialised laboratories	fish larval biology and nutrition, fish pathology, reproduction, physiology, genetics and nutrition, mussel culture, ecotoxicology, marine ecology
19	ES	Las Palmas	PUB RI	Instituto Canario de Ciencias Marinas	www.iccm.rcanaria.es/ , www.grupoinvestigacionacuicultura.org/	land and sea based facilities for research; experimental activities and training	fish nutrition and feeding; culture techniques for new species; new hatchery techniques; genetics
20	ES	Monte Cantabria, Murcia, Vigo, Tenerife, A Coruña	PUB RI	Instituto Español de Oceanografía	www.ieo.es	land based rearing facilities (incl. large-scale) for fish, bivalves, algae; specialised labs	nutrition; culture techniques for new species (fish, bivalves, algae), larval rearing, reproduction, genetics
21	ES	Illa de Arousa. Vilanova de Arousa	PUB RI	Instituto Galego de Formación en Acuicultura. Xunta de Galicia	www.xunta.es/conselle/pe/centro6.htm	experimental sea based facilities: sea rafts for molluscs and fish cages, computer science applications and a intertidal production area	educational purposes
22	ES	San Pedro del Pinatar. Murcia	PUB RI	Instituto Murciano de Investigación y Desarrollo Agrario y Alimentario.	http://wsiam.carm.es/imida/proyectosinves/investigacion12.htm	land based facilities	nutrition, environmental impact, production systems, new species
23	ES	Valencia	U	University of Valencia, Unidad de Zoología Marina. Instituto Cavanilles de Biodiversidad y Biología Evolutiva	www.uv.es/cavanilles/zoomarin/pages/otr_inst.htm	land based facilities, pilot plant and specialised labs	marine mammals; turtles and fish parasitology
24	F	Palavas-sur-mer	PUB RI	IFREMER - Station Expérimentale d'Aquaculture	www.ifremer.fr/toulon	land based tanks for fish and mollusc culture, recirculation systems	physiology, immunology-pathology, genetics, technology of recirculation systems
25	F	Plouzané	PUB RI	IFREMER, Laboratoire ARN	www.ifremer.fr/drvraarn	land based rearing facilities and specialised laboratories	adaptation, reproduction, nutrition of marine fish

26	F	Plouzané	PUB RI	IFREMER, METRI	www.ifremer.fr/metri/	deep wave basin, water circulation basin, laboratories for testing materials and sensors	behaviour in marine environment of materials, equipment, sub-marine vehicles, instrumentation, physical sensors
27	F	St-Pee, Donzacq, Lees-Athas	PUB RI	INRA	http://www.inra.fr	laboratory facilities	aquaculture nutrition and metabolism
28	FIN	Rymättylä	PUB RI	Finnish Game and Fisheries Research Institute (FGFRI)	www.rktl.fi	experimental sea cages with monitoring and feeding control systems; land based recirculation fish rearing facilities	fish nutrition and feeding, fish quality, physiology
29	I	Messina	PUB RI	Istituto Sperimentale Talassografico	www.ist.me.cnr.it	land based rearing installations	environmental studies, fish farming environments, monitoring
30	I	Lecce	U	Marine Aquaculture and fisheries Research Centre - DiSTeBA - Università di Lecce	http://siba2.unile.it/acquatina	land based rearing facilities (hatchery, raceway tanks), specialised laboratories	food safety and quality control, water treatment, physiology, genetics, feeding and nutrition
31	IL	Eilat	PUB RI	Israel Oceanographic and Limnological Research, National Center for Mariculture	www.ocean.org.il	land based systems for rearing fish in seawater ponds	reproduction, larval rearing, genetics, feed development, rearing systems, integrated systems
32	IRL	Cork	U	Aquaculture and Fisheries Development Centre (AFDC), University College Cork	www.ucc.ie/en/DepartmentsCentresandUnits/AquacultureFisheriesDevelopmentCentre/	Land based freshwater and marine fish rearing facilities, laboratories	growth, feeding regimes, disease, genetics, recirculation, environmental impact; coldwater fish and shellfish
33	IRL	Newport	PUB RI	Marine Institute	www.marine.ie/rnd+facilities/marine+institute+facilities/newport+research+facility	freshwater hatchery and salmon rearing facilities	salmon and trout research, feeding, vaccines, broodstock, design of facilities in commercial situation
34	IRL	Carna	U	National University of Ireland	http://mri.nuigalway	land based small, medium and	production of ornamental fish,

				Galway (NUI/UCG), Martin Ryan Institute Carna	.ie	large-scale flow through rearing facilities, finfish hatchery, shellfish rearing and broodstock facilities, seaweed hatcheries	invertebrates, shellfish, marine finfish, recirculation technology, hatchery and system design, phycodepuration
35	ISL	Saudarkrokur	U	Holar University College	www.holar.is	freshwater and seawater land based facilities with variable salinity and temperature	selective breeding, feed and nutrition, water quality, environmental effects, fish ecology, evolution, physiology, behaviour
36	ISL	Reykjavik	PUB RI	Marine Research Institute	www.hafro.is	Land based rearing facilities for halibut, cod, turbot, abalone and new species	juvenile production, broodstock, selective breeding, cultivation of new species
37	N	Sunnalsøra, Averøy	PUB RI	AKVAFORSK	www.akvaforsk.no	Sunnalsøra: land based facilities; Averøy: experimental pens at sea, laboratories	selective breeding and genetics, nutrition, welfare and the environment, product quality, molecular biology, marine species
38	N	Hemne, Tingvoll	COMP	Aqua Gen AS	www.aquagen.no	facilities for breeding of salmon and rainbow trout	selective breeding, production of brood fish and fertilized eggs, fish health
39	N	Hjelmeland	COMP	Center for Aquaculture Competence AS (CAC) (Skretting, Marine Harvest, AKVAsmart)	www.skretting.no	commercial size salmon grow out sea based facilities	fish health, feed production and use, food safety, feed and sensor technology, production economy, documentation
40	N	Dirdal, Lønningdal	COMP	Ewos Innovation AS	www.ewos.com	salmon grow out sea based trial farms; monitoring, control and recording of water conditions and fish growth	fish feeding and feed development
41	N	Dønna	COMP	Fjord Forsøksstasjon Helgeland AS	www.fjordseafood.com	commercial sea based facilities, cranes for collection of feed losses	feed development and technology, environmental impact of feed
42	N	Gildeskål	PRIV RI	GIFAS - Gildeskål Forskningsstasjon AS	www.gifas.no	salmon and cod grow out sea based facilities	biology and technology related to e.g. feed, sea cage experimental studies
43	N	Austevoll, Matre	PUB RI	Institute for Marine Research	www.imr.no	land based experimental facilities for broodstock, spawning, hatcheries for salmon and marine cold water sp.; sea-based facilities	breeding, first feeding, welfare, ethology, cod larvae production, new species, fish health, physiology

						for grow out; laboratories	
44	N	Gurskøy	COMP	Nordvest Fiskehelse AS	www.nvf.no	salmon grow out sea based facilities	bacteriology, parasitology, hematology, analyses of water quality
45	N	Kraknes, Røsneshamn	PUB RI	Norwegian Cod Breeding Centre	http://en.norut.no/	land based broodstock and larval facilities, sea cages for cod production	measuring, weighing, marking, vaccination of fish
46	N	Sandnes	PUB RI	Norwegian Institute for Nature Research (NINA)	www.nina.no	land based facilities for smolt rearing	marine, coastal and freshwater ecology, environmental and impact assessments
47	N	Solbergstrand	PUB RI	Norwegian Institute for Water Research (NIVA)	www.niva.no	salmon grow out sea based facilities, water quality database	water quality, water treatment, monitoring of algae, effects of aquaculture
48	N	Trondheim	U	Norwegian University of Science and Technology (NTNU)	www.ntnu.no	land based seawater facilities for larval rearing	physiology, nutrition, cultivation systems for marine species, shellfish
49	N	Nærøy	COMP	Pharmaq AS	www.pharmaq.no	salmon grow out sea based facilities	fish health management
50	N	Trondheim	PRIV RI	SINTEF Fisheries and Aquaculture AS - SEALAB	www.sintef.no	land based marine hatchery, environmental impact laboratory	aquaculture engineering, marine resources and processing technology
51	N	Stavanger	COMP	Skretting Aquaculture Research Centre (ARC)	www.skretting.no	salmon grow out sea based facilities	fish nutrition and feed development
52	N	Kårvika	PUB RI	The Aquaculture Research Station in Tromsø	www.havbruksstasjonen.no	land based plant, fish health laboratory, full-scale marine farm	broodstock management, larval rearing, feeding, nutrition, fish diseases
53	N	Val	PUB RI	Val Akva	www.val.vgs.no	grow out unit for salmon and trout	educational purposes
54	N	Namsos	COMP	VESO Vikan Akvavet	www.veso.no	salmon grow out sea based facilities	fish health
55	N	Vikebukt	PRIV RI	Villa AS (Cod Farm and Miljølaks)	www.leppefisk.no	cod farm and salmon grow out sea based facilities	development of production methods for cod and for salmon using wrasse as treatment against sea-lice

56	NL	Texel	PUB RI	Royal Netherlands Institute for Sea Research (NIOZ)	www.nioz.nl	large-scale land based aquarium facilities, acclimatised with running seawater and variable temperature and salinity	marine ecology and evolution in marine ecosystems
57	NL	Ijmuiden	PRIV RI	Wageningen IMARES b.v. Institute for Marine Resources & Ecosystem Studies	www.rivo.wageningen-ur.nl	land based seawater tanks and aquaria	production of new fish species, nutrition, recirculation technology, bio-economical modelling
58	PT	Faro	U	Algarve Center of Marine Sciences (CCMAR), University of Algarve	www.ualg.pt/ccmar/aquagroup/	land based marine aquaculture station of Ramalhete	new species, physiology, broodstock management, production systems, feeding regimes
59	PL	Lubiatowo	PUB RI	Coastal Research Station	www.ibwpan.gda.pl/lubiatowo/	marine station with permanent measuring structures	research on coastal phenomena: waves, currents, coastal morphodynamics
60	PT	Porto	PUB RI	Interdisciplinary Centre for Marine and Environmental Research (CIIMAR)	www.cimar.org/ciimar/	land based facilities with closed circuits	aquaculture biology, nutrition and pathology, environmental impacts, integrated aquaculture, offshore mariculture
61	PT	Lisboa	PUB RI	National Institute of Agronomy and Fisheries Research (IPIMAR)	www.iniap.min-agricultura.pt	specialised laboratories (field station)	physiology, anguiculture, mussel culture, pathology, histology, nutrition
62	ROM	Constanta	PUB RI	National Institute for Marine Research and Development "Grigore Antipa"	www.rmri.ro	long-line systems for mussel breeding, research vessel, small-scale land based rearing facilities	marine ecology and environmental monitoring and managing; marine and freshwater rearing of fish and bivalves
63	SE	Norrbyn	U	Swedish University of Agricultural Sciences	www.vabr.slu.se	land based brackish water rearing facilities, specialised laboratories and equipment	fish behaviour, feeding and nutrition, physiology, molecular biology
64	TUR	Izmir	U	Dokuz Eylül University, Institute of Marine Sciences and Technology	www.imst.deu.edu.tr	no sea based facilities, model basin at the Technical University of Istanbul	design of offshore fish farm structures, aquaculture impact on the marine environment, fish farm planning and management

65	TUR	Trabzon, Antalya	PUB RI	Ministry of Agriculture and Rural Affairs	www.sumae.gov.tr www.akdenizsuurleri.gov.tr	facilities for marine and freshwater hatchery and pond cage cultures	aquaculture production in Black Sea (Trabzon) and Mediterranean Sea (Antalya)
66	UK	Lowestoft, Weymouth	PUB RI	Centre for Environment, Fisheries and Aquaculture Scienc (CEFAS)	www.cefas.co.uk	flexible on-land rearing facilities and specialised laboratories	fish health and medical treatment, food safety, environmental impact, management tools
67	UK	Aberdeen, Aultbea	PUB RI	Fisheries Research Services (FRS) Marine Laboratory	www.frs-scotland.gov.uk	land based facilities: rearing facilities, challenge units and behavioural units	fish health, pathology, virology, molecular genetics, epidemiology, immunology, fish behaviour
68	UK	Scalloway (Shetland)	PUB RI	North Atlantic Fisheries College (NAFC) Marine Centre	www.nafc.ac.uk	land-based marine hatchery, sea-based facilities for salmonids, marine finfish, shellfish	brood stock management, larval rearing, on growing production, antifouling, harmful algae
69	UK	Oban	PUB RI	Scottish Association for Marine Science (SAMS)	www.sams.ac.uk	large-scale land based rearing facilities, temperature controlled rooms, specialised laboratories, seabed test area, artificial reef	environmental impacts, new species, fish behaviour, larval nutrition, monitoring equipment testing and technique development
70	UK	Stirling	U	University of Stirling, Institute of Aquaculture	www.aqua.stir.ac.uk/lsf/	on-land trout farm, disease aquarium, tropical aquarium, specialised labs	pathology, reproduction, nutrition, environmental impact, aquaculture systems