Prosiect SIARC: Adolygiad o Gydraddoldeb, Amrywiaeth a Chynhwysiant

Project SIARC: Equity, Diversity and Inclusion (EDI) Review

2021-2023

SIARC

The Partnership

Project SIARC Lead Partners:

Cyfoeth Naturiol Cymru — Natural Resources Wales

ZSL — Zoological Society of London

Project SIARC Delivery Partners:

Prifysgol Bangor University

BlueAbacus

MISS — Minorities in Shark Sciences

Ymddiriedolaeth Natur Gogledd Cymru — North Wales Wildlife Trust

SHARK TRUST

Prifysgol Abertawe — Swansea University

Project SIARC Collaborative Partners:

Prifysgol Aberystwyth University — Ysgol Gwyddor Filfeddygol Aberystwyth — Aberystwyth School of Veterinary Science

All the Elements

PROSIECT MAELGI: CYMRU — ANGEL SHARK PROJECT: WALES

angling cymru — Pysgotwyr Môr Sea Anglers

CSIP

Iascach Intíre Éireann — Inland Fisheries Ireland

IEG

LIB — Leibniz Institute for the Analysis of Biodiversity Change

National Botanic Garden of Wales — Gardd Fotaneg Genedlaethol Cymru

Amgueddfa Genedlaethol y Glannau — National Waterfront Museum — STORI DIWYDIANT A BLAENGAREDD CYMRU — WALES' STORY OF INDUSTRY & INNOVATION

Casgliad y Werin Cymru — People's Collection Wales

ULPGC · UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA

UCD DUBLIN — University College Dublin — Ireland's Global University

WFA CPC

Project SIARC: Equity, Diversity and Inclusion (EDI) Review | Prosiect SIARC: Adolygiad o Gydraddoldeb, Amrywiaeth a Chynhwysiant

2

Contents

Crynodeb Gweithredol

Rydym mewn cyfnod digynsail i'r sector amgylchedd naturiol a threftadaeth; mae'n gyfnod o ymarfer adfywiol. Fe wnaeth COVID-19 a digwyddiadau eraill dros y pum mlynedd diwethaf ysgogi trafodaeth ehangach o'r anghydraddoldebau a'r gwahaniaethau cymdeithasol a wynebir gan gymunedau lleol a'u profiadau o'r sector cadwraeth natur a mannau gwyrdd a glas.

O fewn mentrau cadwraeth, yn rhy aml mae'r anghydraddoldebau hyn yn troi'n wrthdaro os na chânt eu rheoli. Mae'n dod yn fwyfwy amlwg bod gwrthdaro rhwng pobl am fywyd gwyllt yr un mor niweidiol i ymdrechion cadwraeth â'r gwrthdaro rhwng pobl a bywyd gwyllt.

Mae Prosiect SIARC yn cyd-fynd â blaenoriaethau a nodwyd gan Gynllun Morol Cenedlaethol Cymru, Deddf Llesiant Cenedlaethau'r Dyfodol (Cymru) 2015 ac Agenda 2030 y Cenhedloedd Unedig ar gyfer Datblygu Cynaliadwy ac yn cyfrannu at wella gwydnwch bioamrywiaeth forol, ecosystemau a chymunedau arfordirol. Fodd bynnag, ni fydd y buddion hyn yn cael eu gwireddu ac ni fyddant yn gynaliadwy heb degwch a chynhwysiant. Cynhwysiant yw pan fydd pob unigolyn sy'n ymwneud â'n gwaith neu y mae ein gwaith yn effeithio arnynt yn cael eu gwerthfawrogi, eu clywed, eu parchu, eu grymuso, a lle bo ganddynt ymdeimlad o berthyn. Er mwyn creu gwydnwch a chanlyniadau gwirioneddol a pharhaol, rhaid i ni ymarfer cynhwysiant ac amrywiaeth yn agored ac yn ddidwyll, ei wneud yn arferiad, gyda phob un ohonom yn ceisio bod yn fodelau rôl i eraill.

Rhwng 2021 a mis Mawrth 2023 fe wnaethom gyd-gynllunio wyth amcan i'w cyflawni dros gyfnod o 18 mis i arfogi Prosiect SIARC i gamu i mewn i ofod cefnogol, gofalgar a chydweithredol gyda chymunedau y mae'n dymuno gweithio gyda nhw. Gyda'n gilydd rydym yn gweithio i wneud y canlynol:

1. Dod at ein gilydd a datblygu fel tîm i hyrwyddo ein dysgu, ein gallu a'n hyder i weithio gyda chynulleidfaoedd na wasanaethir yn ddigonol a materion sy'n ymwneud â Chydraddoldeb, Amrywiaeth a Chynhwysiant.

2. Nodi pa gynulleidfaoedd (hunaniaethau) fyddai dan sylw yn ein gwaith yn ystod Cam 1 Prosiect SIARC yn seiliedig ar berthnasoedd ac anghenion presennol (h.y. bylchau yn ein gwaith presennol).

3. Cytuno ar ble i ganolbwyntio'n ddaearyddol ar draws lleoliadau'r prosiect.

4. Deall gwybodaeth, canfyddiadau a gwerthoedd a ddelir gan gymunedau amrywiol mewn perthynas â chadwraeth forol.

5. Gwrando a gweithio gyda chynulleidfaoedd na wasanaethir yn ddigonol i'n helpu i ddeall yn well y rhwystrau a'r cyfleoedd i gymunedau ymgysylltu â chadwraeth a gwyddoniaeth forol.

6. Adeiladu rhwydwaith o bartneriaid a chysylltiadau amrywiol sy'n gweithio yn y maes hwn yng Nghymru a thu hwnt.

7. Datblygu dysgu, gallu a hyder ein timau i weithio gyda chynulleidfaoedd na wasanaethir yn ddigonol.

8. Cyd-ddatblygu strategaeth gyda chymunedau i wreiddio tegwch, amrywiaeth a chynhwysiant o fewn Prosiect SIARC a nodi cyfleoedd ar gyfer gweithredu o 2023 ymlaen.

Fel Prosiect SIARC rydym yn cael ein cymell i greu newid systemig yn ein sector, i ddyrchafu pob unigolyn a gwerthfawrogi'r gwerth ychwanegol a ddaw o amrywiaeth o ran syniadau a phrofiad, i barhau i ddysgu gan eraill sydd â'r un ymrwymiad i ailddysgu ac ailadeiladu. Mae'r adolygiad hwn yn nodi ein canfyddiadau a'n cyfeiriad ar gyfer y dyfodol, gan amlinellu cyfleoedd â blaenoriaeth ar gyfer cydweithio â grwpiau cymunedol ac addysgwyr a nodwyd o ganlyniad i'r hyn rydym wedi'i ddysgu hyd yma.

Executive Summary

We are in an unprecedented time for the natural environment and heritage sector, a time of regenerative practice. COVID-19 and other events over the last five years provoked greater discussion of the inequities and social disparities faced by local communities and their experiences of the nature conservation sector and green and blue spaces.

Within conservation initiatives, if left unchecked, too often these disparities manifest into conflicts. It is becoming increasingly understood that conflict between people about wildlife is as damaging to conservation efforts as the conflict between people and wildlife.

Project SIARC aligns with priorities set out by The Welsh National Marine Plan, the Well-being of Future Generations (Wales) Act (2015) and the 2030 UN Agenda for Sustainable Development and contributes towards enhancing the resilience of marine biodiversity, ecosystems and coastal communities. However, these benefits will not materialise or be sustainable without equity and inclusion. Inclusion is when every single person involved in or impacted by our work is valued, heard, respected, empowered, and feels a true sense of belonging. To create real and lasting resiliency and outcomes, we must openly and authentically practice inclusion and diversity, to make it a habit, with all of us aiming to serve as role models for others.

Between 2021 and March 2023 we co-designed eight objectives to be undertaken over a period of 18 months to better equip Project SIARC to step into a supportive, nurturing, and capacity sharing space with communities it wishes to work with. Together we worked to:

1. **Come together** and **develop** as a team to further our learning, ability, and confidence to work with underserved audiences and issues related to Equity, Diversity and Inclusion (EDI).

2. **Identify** which audiences (identities) we would focus our work with during Project SIARC Phase 1 based on existing relationships and need (i.e. gaps within our current work).

3. **Agree** on where to focus geographically across the project locations.

4. **Understand** knowledge, perceptions and values held by diverse communities in relation to marine conservation.

5. **Listen** and work with underserved audiences to help us better understand the barriers and opportunities for communities to engage with marine conservation and science.

6. **Build a network** of diverse partners and contacts working in this area within Wales and beyond.

7. **Develop** our teams learning, ability and confidence to work with underserved audiences.

8. **Co-develop** a strategy with communities to embed equity, diversity and inclusion within Project SIARC and identify opportunities for action for 2023 onwards.

As Project SIARC we are driven to see a systemic change within our sector, to elevate every person and appreciate the value added of the diversity of thought and experience, to continually learn from others with the same commitment to relearning and rebuilding. This review sets out our findings and future directions, outlining priority opportunities for collaborating with community groups and educators identified as a result of our learning journey to date.

Sefylla Prosiect SIARC

Nod Prosiect SIARC (Siarcod yn Ysbrydoli Gweithredu ac Ymchwil gyda Chymunedau) yw sbarduno cysylltiadau rhwng pysgotwyr, ymchwilwyr, cymunedau a'r llywodraeth gyda'r nod o gydweithio a diogelu siarcod a morgathod (elasmobranciaid) a chefnogi adferiad gwyrdd yng Nghymru. Cyflwynir Prosiect SIARC mewn partneriaeth gan ddau sefydliad arweiniol, chwe phartner cyflawni a sawl partner cydweithredol.

Mae'r datganiad sefyllfa a ganlyn yn adlewyrchu sefyllfa deg aelod o staff y prosiect sy'n gweithio gyda physgotwyr ledled Cymru a gyda chymunedau lleol yng Ngogledd Cymru. Daw'r staff o'r sefydliadau partner arweiniol Cymdeithas Swoleg Llundain a Cyfoeth Naturiol Cymru (CNC), a'r partneriaid cyflawni, Ymddiriedolaeth Natur Gogledd Cymru.

Drwy gydol ein bywydau a'n gwaith, rydym wedi gweld a phrofi rhai o'r ffyrdd y mae anghyfiawnder, diffyg cynrychiolaeth o grwpiau lleiafrifiedig a dynamig pŵer anwastad yn effeithio ar fynediad i gyfleoedd i bobl brofi byd natur. Rydym yn cydnabod nad yw ein profiadau a'n lleisiau yn gwbl gynrychioliadol o gymunedau sy'n byw yng Nghymru a thu hwnt. Ein dymuniad yw y gallwn, trwy gydweithio a chyd-ddatblygu, helpu i oresgyn anghyfiawnderau'r gorffennol a chreu newid ar gyfer dyfodol y sector cadwraeth a bywydau pobl sy'n byw yng Nghymru. Rydym yn ymroddedig i ysgogi'r newid hwn yn ein gwaith, a ategir gan ffocws gwaith penodol ar degwch, amrywiaeth a chynhwysiant ac ymrwymiad tîm i gynyddu ein dealltwriaeth o bynciau sy'n ymwneud â chydraddoldeb, amrywiaeth a chynhwysiant. Rydym yn cydnabod y cyfyngiadau yn ein dealltwriaeth o rai o'r materion yr ydym yn gweithio i fynd i'r afael â nhw fel Prosiect SIARC ac yn cydnabod pwysigrwydd cydweithio ar gyfer newid. O'r deg aelod o staff y mae'r datganiad hwn yn eu cynrychioli, mae saith ohonom yn fenywod a thri ohonom yn ddynion; rydym o ethnigrwydd Cymreig a Seisnig gydag unigolion â threftadaeth Gymreig, Gogledd Iwerddon, Seisnig,

Albanaidd ac Americanaidd brodorol. Mae gennym oedran cymedrig o 35 (ystod: 27–49). Rhyngom rydym wedi dod i oed mewn lleoliadau gwledig a threfol yn y DU a thramor. Fel rhan o'n tîm, mae aelodau sy'n rhan o'r gymuned LHDTCRhA+ ac aelodau sy'n heterorywiol. O'r deg aelod o staff a gynrychiolir yma, nid oes gan unrhyw aelod o'r tîm unrhyw anableddau neu amhariadau corfforol. Fel tîm rydym yn niwroamrywiol, gyda rhai aelodau o'r tîm yn niwrowahanol a rhai yn niwronodweddiadol.

Mae dau ohonom yn siaradwyr Cymraeg rhugl ac wyth ohonom yn ddysgwyr Cymraeg ac, o fewn y tîm, rydym hefyd yn siarad pum iaith arall yn ogystal â Chymraeg a Saesneg. Ar gyfartaledd, rydym wedi treulio 35% o'n bywydau rhyngom yn byw yng Nghymru, ac mae ein profiadau o fyw a gweithio yng Nghymru wedi dylanwadu'n sylweddol ar ein rhagolygon a'n dulliau o weithio yn y sector amgylcheddol. I bob un ohonom, mae'r môr a'r amgylchedd morol wedi chwarae rhan bwysig drwy gydol ein bywydau, er nad ydym ni i gyd wedi dod i oed ger y môr ac mae datblygiad y cysylltiad hwnnw'n amrywio o ddechrau yn ystod plentyndod i ers dod yn oedolyn. Mae'r cysylltiad hwn yn dylanwadu'n gryf ar y dewisiadau a wnawn heddiw, gan gynnwys ein hangerdd dros ddiogelu a dathlu amgylchedd morol Cymru, a gweithio tuag at fynediad teg i fannau glas i bawb rydym yn gweithio gyda nhw.
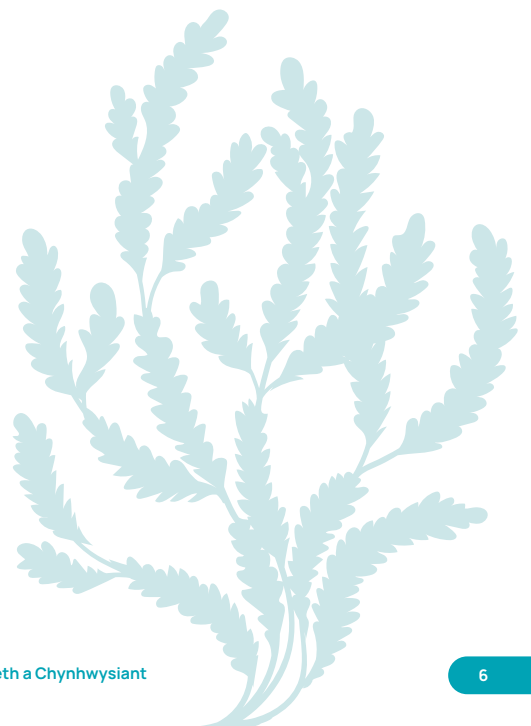
Mae'r tîm i gyd wedi cael y fraint o deithio'n rhyngwladol ar draws chwe chyfandir o'r byd rhyngom, gan gynnwys teithio ar gyfer ymchwil, gwyddor cadwraeth, hamdden a newidiadau bywyd. Mae'r cyfleoedd hyn wedi rhoi'r cyfle i ni brofi a dysgu o ddiwylliannau sy'n wahanol i'n diwylliant ni ein hunain a datblygu sgiliau gwahanol ar hyd y blynyddoedd. Mae ein teithiau wedi amlygu lefelau is o ymwybyddiaeth o'r bywyd gwyllt a'r cynefinoedd sydd i'w cael yn yr amgylchedd morol a dŵr croyw yn y DU. Mae'r profiadau hyn wedi atgyfnerthu ymrwymiad a rennir i eirioli dros wella mynediad a chyfleoedd i brofi byd natur yng Nghymru, heb fod angen teithio dramor. O fewn y tîm mae gennym ni wyth gradd BSc, naw gradd MSc, un radd MA a dwy ddoethuriaeth mewn pynciau amgylcheddol. Wrth ddod i oed, rydym wedi dod dan ddylanwad cefndiroedd ein teuluoedd, sy'n cynnwys gweithio yn y sectorau canlynol: amaethyddiaeth, yr amgylchedd, peirianneg, bwyd môr, gweinyddiaeth ac adnoddau dynol, amddiffyn milwrol, twristiaeth, gofal cymdeithasol, iechyd a llesiant, mwyngloddio, ymchwil fiolegol, cyllid, gweithgynhyrchu, adeiladu, addysg a'r cyfryngau. Rhyngom rydym wedi gweithio yn y sectorau lletygarwch, cadwraeth yr amgylchedd a bywyd gwyllt, twristiaeth a hamdden, chwaraeon, gofal anifeiliaid, y diwydiannau creadigol, ymchwil, adeiladu, y cyfryngau, gofal iechyd, manwerthu, digwyddiadau, ffermio, gweithgynhyrchu, plymio a'r gwasanaeth sifil, ac wedi gwirfoddoli i sefydliadau sy'n canolbwyntio ar yr amgylchedd a chadwraeth bywyd gwyllt, gofal anifeiliaid, ymchwil wyddonol, cymorth i blant ac oedolion sy'n agored i niwed, a chymorth i ffoaduriaid, mudwyr a cheiswyr lloches.

Rydym yn cydnabod y fraint y mae ein cefndiroedd wedi'i rhoi inni, fel yr amlinellir yma, a gwyddom fel tîm ein bod yn parhau i fod â llawer i'w ddysgu.

Project positionality

Project SIARC (Sharks Inspiring Action and Research with Communities) aims to catalyse links between fishers, researchers, communities and government to collaborate and safeguard sharks, skates and rays (elasmobranchs) and support a green recovery in Wales. Project SIARC is delivered in partnership by two lead organisations, six delivery partners and several collaborative partners.

The following positionality statement reflects the positionality of ten project staff who work with fishers throughout Wales and with local communities in North Wales. Staff are from the lead partner organisations Zoological Society of London (ZSL) and Natural Resources Wales (NRW), and delivery partners, the North Wales Wildlife Trust (NWWT).

Through our lives and work we have witnessed and experienced some of the ways in which injustice, lack of representation of persistently minoritized groups and uneven power dynamics impacts access to opportunities for people to experience nature. We recognise that our experiences and voices are not fully representative of communities living in Wales and beyond. Our desire is that through collaboration and co-development we can help overcome past injustices and create change for the future of the conservation sector and the lives of people living in Wales. We are dedicated to driving this change in our work supported by a dedicated work focus on equity, diversity and inclusion and a team commitment to increase our understanding of EDI topics. We acknowledge the limitations in our understanding of some of the issues we are working to address as Project SIARC and recognise the importance of working collaboratively for change. Of the ten staff this statement represents, seven of us are women and three of us are men, we are of both Welsh and English ethnicity with individuals with Welsh, Northern Irish, English, Scottish and indigenous American heritage. We have a mean age of 35 (range: 27 - 49). Between us we have grown up in both rural and urban settings in the UK and overseas. Of our team there are members who are part of the LGBTQIA+ community and members who are heterosexual. Of the ten staff represented here, no members of the team have any physical disabilities or impairments. As a team we are neurodiverse, with both neurodivergent and neurotypical team members.

Two of us are fluent Welsh speakers and eight of us are Welsh learners and within the team we also speak five other languages in addition to Welsh and English. On average we have spent 35% of our collective lives living in Wales, and both our experiences of living and working in Wales have significantly shaped our outlooks and approaches to working in the environment sector. For all of us the sea and marine environment have played significant roles throughout our lives, although we haven't all grown up by the sea and the development of that connection ranges from starting in childhood to adulthood. This connection strongly influences the choices that we make today, including our passion for safeguarding and celebrating the Welsh marine environment, and working towards equitable access to blue space for all who we work with.
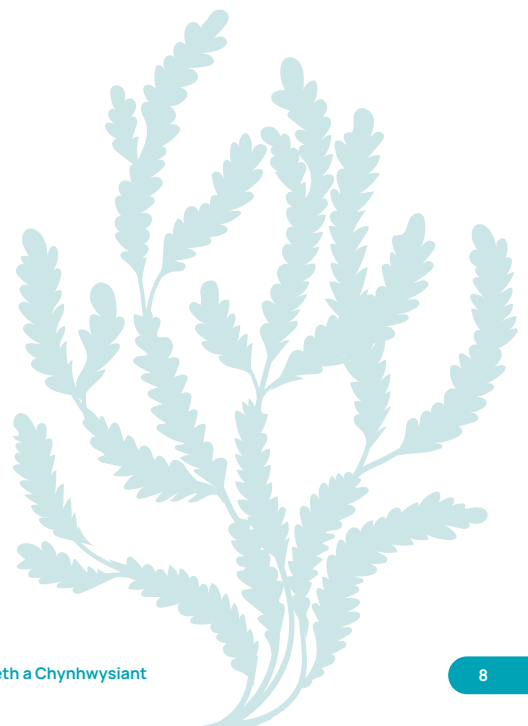
All of the team have had the privilege of international travel across a collective 6 continents of the world, this has included travel for research, conservation science, leisure and life changes. These opportunities have given us the chance to both experience and learn from cultures which are different to our own and develop different skills throughout the years. Our travels have highlighted lower levels of awareness of the wildlife and habitats that can be found in the marine and freshwater environment in the UK. These experiences have reinforced a shared commitment to advocating for improving access and opportunities to experience nature in Wales, without the need to travel overseas. Within the team we collectively hold eight BScs, one BA, nine MScs, one MA and two PhDs in environmental subjects. Growing up, we have been shaped by our families' backgrounds which include working in the following sectors: agriculture, environment, engineering, seafood, administration & human resources, military defence, tourism, social care, healthcare and wellbeing, mining, biological research, finance, manufacturing, construction, education and media. Collectively we have worked in the hospitality, environmental and wildlife conservation, tourism & leisure, sports, animal care, creative, research, construction, media, healthcare, retail, events, farming, manufacturing, diving and civil–service sectors, and volunteered for organisations focused on the environment and wildlife conservation, animal care, scientific research, support for vulnerable children & adults, and support for refugees, migrants and asylum seekers.

We recognise the privilege that our backgrounds have given us, as outlined here-in, and we know as a team we continue to have much to learn.

A Ynglŷn â'r awduron

Dr Kathryn E Whittey

Trefnydd Cymunedol Lleol a Phrif Ymchwilydd, Prosiect SIARC Hydref 2022 – Mai 2023

Dwi'n fiolegydd morol a chefais fy magu ym Mharc Cenedlaethol Eryri, dim ond wyth milltir o'r môr. Roeddwn bob amser yn teimlo cysylltiad agos iawn â'r môr a'r arfordir; treuliais lawer iawn o amser yn beicio i lawr yr hen reilffordd sy'n dilyn yr aber i lawr at yr arfordir. Byddwn yn treulio fy amser yn chwilio am gregyn a byddai fy nhad yn dangos yr adar ac yn adrodd straeon am bysgota, sut roedd yn arfer eu dal, ble roedd yn eu dal, a phryd ac ymhle y byddai rhai pysgod penodol i'w canfod. I mi, mae'r rhain yn atgofion arbennig iawn o'r modd y mae'r arfordir yn rhan annatod o'm bywyd.

Pan oeddwn yn fy mlwyddyn olaf yn y brifysgol yng Nghaerdydd, dysgais am fôr-wyntyllau pinc a bod gennym y cwrelau hyn yn byw yn Ne Cymru. Doedd gen i ddim syniad bod gennym ni gwrelau, ac ar ôl dysgu amdanynt, dysgais am gymaint o greaduriaid eraill hefyd. Arweiniodd hyn fi at y term 'môr-ddallineb', a dysgais fy mod yn 'dioddef' o'r cyflwr hwn. Roeddwn i'n teimlo fy mod i wedi cael fy nhwyllo rywsut. Pam na chefais i wybod? Sut nad oeddwn i wedi clywed am hyn? Pam nad oedd neb wedi dweud wrtha' i? Daeth y syniad hwn o 'fôr-ddallineb' yn rhyw fath o obsesiwn a chefais fy swyno gan grwpiau a mentrau a oedd yn gweithio tuag at gyflwyno'r môr i bawb ... i 'wella'r môr-ddallineb'. Cysylltais â chwmni Hydrous, a oedd yn hyrwyddo 'mynediad agored i'r cefnforoedd', ac yn cyflwyno'r môr a'r riffiau cwrel i gynulleidfa eang trwy ddefnyddio modelau 3D a realiti rhithwir, gan gyfuno gwyddoniaeth ag allgymorth gwyddoniaeth a chyfathrebu gwyddoniaeth. Yn dilyn hyn, fe wnes i greu cydweithrediad a arweiniodd at fy ngradd PhD ar riffiau cwrel, gan ddefnyddio modelau 3D i edrych ar ecoleg y riff. Fe wnes i barhau i ddefnyddio'r term 'môr-ddallineb' a defnyddio'r stori hon mewn llawer o sgyrsiau am yrfaoedd, mewn sgyrsiau cyfathrebu gwyddoniaeth, mewn gwersi, a chyfweliadau radio. Roeddwn i'n meddwl ei fod yn ffordd ragorol o ddarlunio'r ffaith ein bod yn aml yn edrych ar y môr ac ond yn gweld ehangder llwyd o ddŵr yn unig.

Yn ystod fy ngwaith gyda Phrosiect SIARC, roeddwn yn ceisio estyn allan at bobl o wahanol gefndiroedd a phrofiadau. Daeth un o'r pethau allweddol i mi ei ddysgu ar ôl i mi siarad â rhywun â nam ar ei golwg. Dywedodd fod ei golwg yn dod yn fwyfwy o rwystr iddi wrth heneiddio ond ei bod yn dal i ymgysylltu â'r môr gan ddefnyddio ei synhwyrau eraill trwy deimlo gweadau gwahanol bethau a thrwy chwilio mewn pyllau glan môr. Cafodd ei geiriau effaith fawr arnaf ac roeddwn yn teimlo cywilydd mod i wedi defnyddio'r term 'môr-ddallineb' mewn ffordd mor ddifeddwl. Wrth gyfweld phobl eraill a ymatebodd, gwnaethant hwythau sôn sut yr oedd eu hemosiynau'n eu cysylltu â'r môr i raddau mwy, neu o leiaf i'r un graddau, ag yr oedd unrhyw beth yr oeddent yn gallu ei weld yn eu cysylltu ag ef. Sylweddolais, ers dysgu am y môr-wyntyllau pinc, sut yr oedd y modd roeddwn i'n amgyffred y môr wedi ei effeithio. Roeddwn i'n teimlo nad oeddwn i'n adnabod y môr oherwydd doeddwn i ddim yn gwybod beth oedd ynddo. Dwi'n teimlo cysylltiad dwfn nawr trwy siarad â'r bobl hyn nad ydynt chwaith yn gwybod am y pethau hyn eto, ac rwy'n deall pa mor anghywir oeddwn i feddwl fod gen i lai o gysylltiad â'r môr na rhywun a oedd yn gwybod mwy na fi. Sylweddolais nad yw'n ddigon dim ond dangos pysgodyn, neu ddolffin, neu unrhyw greadur i bobl – rhaid i ni eu helpu i gysylltu ym mha bynnag ffordd y maen nhw am gysylltu. Ac mae cymaint o ffyrdd y gallwn ni wneud hyn!

Er fy mod yn meddwl bod dangos beth sydd o dan y tonnau i bobl yn hollbwysig, mae'n ymddangos i mi mai dim ond un llwybr y gallwn ei gymryd yw hwn. Mae'r cefnfor yn fwy na rhywbeth gweledol yn unig, mae'n lle, yn ddarparwr, yn gynefin, yn antur, yn wyliau, yn brofiad, yn sŵn neu'n arogl... yn deimlad. Drwy ehangu ein dealltwriaeth o'r cysylltiad hwn, a'r holl ffyrdd niferus y mae pobl yn cysylltu, gallwn hwyluso ymgysylltiad pobl â'r môr.

Dr Hannah Z L Lee

Swyddog Cymunedol Tegwch, Amrywiaeth a Chynhwysiant, Prosiect SIARC – ymunodd â Phrosiect SIARC ym mis Hydref

Rwy'n gyfathrebwr gwyddoniaeth a biolegydd morol a fagwyd ar gyrion y Peak District yn Chesterfield, Swydd Derby, un o'r siroedd yn y DU sydd bellaf o'r môr. Wedi dweud hynny, dwi wedi cael y fraint fawr o dreulio cryn dipyn o fy mhlentyndod yn ymweld â'r arfordir gyda fy mam, o benwythnosau yn Whitby i wyliau blynyddol i Gernyw ac yn y pen draw tripiau dramor. Fe ddysgais i nofio mewn pwll o dan y dŵr (doeddwn i ddim yn dda iawn am arnofio) a syrthiais i mewn cariad â snorcelio yn ifanc iawn. Hyd heddiw, rwy'n cyffroi yr un faint o weld y gragen leiaf, craffu ar wead cywrain cen arfordirol neu durio trwy wymon ag ydw i o weld llamhidydd neu ddolffin oddi ar arfordir Cymru. Mae'r arfordir a'r môr ill dau yn rhannau enfawr o fy mywyd ac mae fy nheimladau tuag at y mannau glas hyn yn gymysgedd o barch, hiraeth, a gwerthfawrogiad o le sy'n rhoi ymdeimlad dwfn o heddwch i fi.
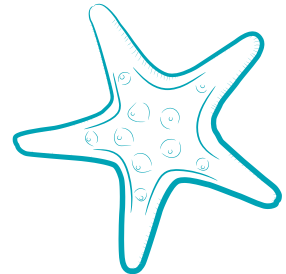
Ymunais i â Phrosiect SIARC o'r elusen Plantlife lle bûm yn gweithio ar y prosiect Twyni ar Symud fel 'Swyddog Ymgysylltu â Phobl' yng Nghymru ac ar ôl cwblhau fy noethuriaeth mewn Bioleg Forol. Symudais i Gymru am y tro cyntaf yn 2013 ar gyfer y brifysgol ac ar ôl ychydig flynyddoedd yn yr Alban dychwelais i fyw yma yn 2022. Ers dechrau fy addysg fel ecolegydd mae fy niddordeb a'm hangerdd tuag at gefnogi eraill i gael profiadau sy'n creu atgofion grymus ac sy'n ysgogi newid wedi tyfu'n aruthrol. Ond ar yr un pryd, mae fy ymwybyddiaeth o'r rhwystrau y mae pobl yn eu hwynebu o ran profi mannau naturiol a chymryd rhan mewn cadwraeth forol hefyd wedi tyfu.

Gan adeiladu ar y gwaith mae Prosiect SIARC wedi'i gwblhau hyd yma (2021-2023) i greu prosiect mwy hygyrch, cynhwysol a theg, rwy'n cefnogi nod Prosiect SIARC o hyrwyddo dull tecach o ymdrin â chadwraeth. Mae fy ngwaith o fewn y tîm yn canolbwyntio ar weithio gyda chymunedau lleol, cefnogi tîm y prosiect i ddysgu gwersi sy'n gysylltiedig â thegwch, amrywiaeth a chynhwysiant, a gweithio gyda phartneriaid cyflenwi prosiectau a chymunedau lleol er mwyn lleihau rhwystrau sy'n rhwystro mynediad pobl at fannau arfordirol a chymryd rhan gyda Phrosiect SIARC. Mae'n hynod bwysig i mi ein bod yn creu gofod lle bo gan bawb y cyfle i rannu eu profiadau a'u lleisiau, a bod hyn yn ein galluogi ni i gyd i gyd-ddatblygu a chreu dull mwy cynhwysol o ymdrin â gweithgareddau cadwraeth yn y dyfodol.

Project SIARC: Equity, Diversity and Inclusion (EDI) Review I Prosiect SIARC: Adolygiad o Gydraddoldeb, Amrywiaeth a Chynhwysiant

11

About the authors

Dr Kathryn E Whittey

Local Community Organiser and Principal Investigator, Project SIARC October 2022 – May 2023

I'm a marine biologist and grew up in Eryri (Snowdonia) national park, just 8 miles from the sea. I always felt a deep sense of connection with the sea and the coast, I spent a huge amount of time cycling down the old railway line which hugs the estuary down to the coast. I would spend my time looking for shells and my dad would point out the birds and tell stories of fishing, how he used to catch fish, where he caught them, and when certain fish would be where. In my mind these are very special memories of how the coast is intertwined in my life.

When I was in my final year of University at Cardiff I learnt about pink sea fans and that we have these corals living off the coast of South Wales. I had no idea we had corals, and after learning about them, I learnt about so many other creatures too. This led me to the term "Seablindness", I learnt that I was a 'sufferer' of this. I felt a bit cheated. Why was I not told? Why did I miss out? Why didn't someone tell me? I became a little obsessed with this idea of 'Seablindness', I became enamoured by groups and initiatives which were trying to work towards bringing the sea to all... to 'curing Seablindness'. I reached out to a company, the Hydrous, who were championing "Open Access Oceans" and bringing the sea and coral reefs to a wide audience using 3D models and virtual reality - combining science with science outreach and science communication. From this I created a collaboration which led to my PhD on coral reefs, using 3D models to look at the ecology of the reef. I continued to use the term 'Seablindness' and used this story in many career talks, in science communication talks, in lessons, and radio interviews. I thought it was a great way to depict the fact that we often look at the sea and just see a grey expanse of water.

During my work with Project SIARC (Sharks Inspiring Action and Research with Communities), I worked to reach people of different backgrounds and experiences. One of my key learnings came when I spoke to a person who was visually impaired; as she is getting older, she says her sight is becoming more and more of a barrier for her, but she still engages with the sea using other senses, such as feeling textures and searching in rockpools. I was so moved by this and slightly ashamed of myself for using this term "Seablindness" in such a blasé way. When interviewing other respondents, they spoke about their emotions connecting with the sea more, or as much as, the things that they had seen in or by the sea. I realised, that since learning of pink sea fans, I had let my own perception of my connection to the sea be affected. I felt like I didn't know the sea because I didn't know what was in there. Through speaking to others who also didn't know these things yet, I felt a deep connection and I understood that I was wrong to think I am less connected to the sea than someone who knows more. I realised that we cannot expect to simply show people a fish, or a dolphin, or any creature, we must help people connect in whatever way it is that they want to connect and that there are so many ways we can do this!

While I do think that showing people what's under the waves is crucial, it seems to me that this is just one avenue. The ocean, is more than just a visual - it's a space, a provider, a habitat, an adventure, a holiday, an experience, a sound or smell....a feeling. By furthering our understanding of this connection, and all the many ways in which people connect we can facilitate people's engagement with the sea.

Dr Hannah Z L Lee

Equity, Diversity and Inclusion Community Officer, Project SIARC - Joined Project SIARC October 2023

I'm a science communicator and marine biologist who grew up on the edge of the peak district in Chesterfield, Derbyshire, one of the counties in the UK that is furthest from the sea. That being said, I have had the great privilege to have grown up visiting the coast with my mum, from weekends in Whitby to an annual sun holiday to Cornwall and eventually trips overseas. I learnt to swim in a pool underwater (I wasn't very good at floating) and fell in love with snorkelling at a very young age. To this day I get just as excited by the smallest shell, observing the intricate textures of a coastal lichen or rummaging through washed-up seaweed as I do spotting a porpoise or dolphin off the Welsh coast. The coast and sea are both huge parts of my life and my feelings towards these blue spaces is somewhere between awe, respect, longing, and a place that makes me feel 'at peace'.
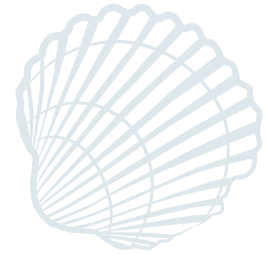
I joined Project SIARC from the Charity Plantlife where I worked on the project Dynamic Dunescapes as 'People engagement officer' in Wales and following the completion of my PhD in Marine Biology. I first moved to Wales in 2013 for university and after a few years in Scotland returned to live here in 2022. Since beginning my education as an ecologist my interest and passion towards supporting others to have the opportunity to have experiences that make memories lasting a lifetime and evoke change has grown exponentially. As such, so has my awareness of the barriers people face to experiencing nature spaces and to getting involved in marine conservation.

Building on the work Project SIARC has completed so far (2021-2023) towards delivering a more accessible, inclusive and equitable project I am supporting Project SIARCs goal of promoting a fairer approach to conservation. My work within the team focuses on working with local communities, supporting project team learning related to equity, diversity and inclusion (EDI), and working with project delivery partners and local communities towards reducing barriers hindering people's access to experiencing coastal spaces and getting involved with Project SIARC. It's incredibly important to me that we create a space where everyone can have the opportunity to share their experiences and voices, and that this can enable us all to co-develop and create a more inclusive approach to future conservation activities.

Background to Project SIARC

The marine environment in Wales is teeming with life, featuring diverse fish communities including little-studied species of sharks, skates and rays (elasmobranchs) of conservation importance.

Following the success of Angel Shark Project: Wales (2018-2022), Project SIARC (Sharks Inspiring Action and Research with Communities) was launched in October 2021 as a multidisciplinary project led by Natural Resources Wales (NRW) and the Zoological Society of London (ZSL) and delivered in partnership with Bangor University, Blue Abacus, Minorities in Shark Sciences, North Wales Wildlife Trust (NWWT), Shark Trust, and Swansea University alongside a further 13 collaborative partners. Project SIARC 'Phase 1' was delivered October 2021 – March 2023 with the project receiving further funding from the Nature Networks Fund 2 in April 2023 to deliver Project SIARC 'Phase 2' running from April 2023 to March 2026. As of April 2024, Project SIARC 'Phase 2' is funded by The National Lottery Heritage Fund, Welsh Government, Nature Networks Fund, On the Edge and The Moondance Foundation.

©JD Scuba - Jake Davies

Project SIARC uses flagship elasmobranch species in Wales (angelshark, blue skate, common stingray, flapper skate, spurdog and tope) to bring together local communities, fishers, researchers and government to cultivate a new appreciation and open-up access to the underwater environment in Wales. We are working on six inter-linked work packages, which bring together biological, social and engineering sciences, and through Project SIARC:

- Fishers and scientists work together, to share knowledge and experiences

- Important information is gathered to better understand sharks, skates and rays

- Ways for a wider range of people to access and experience the coast and sea are being identified through work with local partners

- Schoolchildren use new ways of learning to explore the coast and sea

- Citizen science activities and learning experiences are being delivered in partnership with local communities

- Wales' marine life and local culture is being celebrated

Engaging people from diverse backgrounds improves conservation practices and benefits academic research (Smith et al. 2017; Resnik et al. 2015) and Project SIARC recognises that it must do more to diversify opportunities by understanding different audiences (identities) and values, and needs to appeal to a wider demographic of people to support audiences to engage with marine conservation in Wales.

Key to delivering this work is collaboration and learning exchange with a wide network of contributors, and the interconnection between Project SIARC and the wider ZSL FAIRER Conservation Programme (**F**air, **A**ccountable, **I**nclusive, **R**espectful, **E**quitable and **R**eflective Conservation), which was co-founded by long term ASP:W and Project SIARC advisor and senior author of this review Surshti Patel.

Glossary

This glossary has been constructed with particular emphasis on words that are relevant to Project SIARC and is by no means a complete list.

The glossary will continue to evolve with our growing understanding of this topic and is designed as a reference and learning tool. Unless otherwise stated the below list of terms was collated from two workshops and one publication:

- 'Parachuting in', a hybrid event which took place at the Royal Geographical Society in January 2023 with 100 respondents. The one-day workshop was co-created and co-delivered by a team of 17 people from 12 organisations (University of Exeter, African Conservation Centre, Royal Geographical society with IBG, Stellaria Media, National Geographic Society, Agile Rabbit, Oceanswell, Collaborative Capacities, Blue Ventures, Zoological Society of London, staff from the BBC journalism team and Newcastle University).

- A collaborative Project SIARC workshop co-designed and delivered with Sawsan Khuri, Director of Collaborative Capacities in March 2023.

- The Inclusive Practice Glossary for Facilitators (Khuri et al. 2024)

Active listening

Often when listening to others one listens but does not hear the other person. We can repeat verbatim their words, but not the meanings nor intentions behind them. Active listening is mindful listening, giving the other person all our attention and hearing what they are trying to communicate without judgement or bias. In practical terms, take a breath together, focus on the other person and listen. Ask questions, provide feedback, and collaborate on identifying next steps. Active listening is about respect, learning and sharing space.

Allyship

An ally is someone who actively promotes inclusion for all. This might take the form of recognition of societal barriers, belief in others' experiences of marginalisation, advocacy, and self-reflection, though there will be other situation-specific ways that allyship can be offered. Other words that imply a more direct, active role are "accomplice" and "co-conspirator".

Anti-racism

A mindset of action against behaviours and policies that are perceived to be racist. It is not enough to think something might be racist or to not be racist yourself, being anti-racist means finding out more and then doing something about it.

Bias

In the context of listening, bias is when an individuals beliefs, preconceived ideas and judgements into the meeting with them. It is almost impossible to belong to a community without having some opinion about other communities, and the trick with EDI work is to lose these perceptions and arrive with an open mind to meetings. Losing bias means we are not categorising people into stereotypes even before we meet them. Take Your Shoes Off First is an excellent method for losing bias.

Black, Asian and Minority Ethnic (BAME)

'BAME' is a term used to refer to people of non-white ethnicities who are minoritised in the UK, particularly in statistical reporting (Note that these statistical categories do not tend to include white minority ethnic groups but they do include those who identify as having a mixed ethnicity). 'BAME' as a standalone term should not be used to refer to people or individuals from a minority ethinic group e.g. He's a BAME solicitor (Law Society). BAME is increasingly no longer used as the term generalises and emphasises certain ethnic minority groups (Asian and black) and exclude others and can also mask disparities between different ethnic groups (GOV.UK).

Collaboration

Being open and willing to share information, learn from others and work together around a specified common goal.

Collaborative research and co-development

Requires a mindset that knowledge generation is dependent on inputs from equal partners at every level. The process is integrated from the start: project design to funding proposal to implementation and completion of outputs. All contributions are valid. Insights and information are acknowledged, and contributors are given due credit in any and all outputs from the research.

Decolonising

The process of undoing still-existing colonial relations in terms of knowledge and land. Though by no means a fixed term, it is in general recognised that decolonising is an unsettling process that undoes established modes of (colonial) order. The meaning and application of this term is heavily debated, and the extension of decolonisation beyond political independence has received much critique. Despite decolonisation ending formal colonisation, unequal power dynamics between former colonisers and independent states in often referred to as neocolonialism (see Neocolonialism in glossary).

Deep listening

Provides an additional layer of empathy. Once you have actively listened to someone, you are better able to listen a little more deeply to gain an understanding their motivations and intentions. There is an element of love involved in deep listening.

Diversity

The inclusion and representation of people with varied opinions and experiences, different cultures and a mixture of protected characteristics.

Equality

Equality is treating everyone the same i.e. 'as equals', equity is giving each person what they need to become equal to others.

Equity

Equity is about creating equality by meeting the needs of traditionally underrepresented groups at any level see 'Equality vs Equity (IWD, 2023)' for a further example.

Ethnicity

Race and ethnicity are two concepts related to human ancestry (see Race in glossary), both terms are social constructs used to categorize and characterize seemingly distinct populations. The term Ethnicity is more broadly defined than the term Race, ethnicity is linked with cultural expression and identification and people who share an ethnicity may speak the same language, come from the same country, or share a religion or other cultural belief or expression. Neither ethnicity nor race can be genetically detected (National Geographic), see this blog for more information.

Gender identity

Gender identity is a personal internal perception of oneself and, as such, the gender category with which a person identifies may not match the sex they were registered at birth. Gender identity is different to 'sex' – see definition in glossary. Gender identities include male, female, gender neutral, non-binary, agender, pangender, genderqueer, two-spirit and all, none or a combination of these (Gender identity - Office for National Statistics; Gender Identity).

Inclusion

Inclusive practice is about ensuring traditionally marginalised voices are equals at the table at every stage of a project or conversation. Inclusion means bringing everyone in at the design phase, and including them in decision making, funding, implementation and reporting of a project.

Informal learning

The lifelong process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment, it lacks structure, is non-direct and can take place anywhere (Johnson and Majewska, 2022).

Intersectionality

A way to highlight the interconnected and often overlapping nature of groups and their identities, intersectionality is often used to identify common experiences of disadvantage or discrimination caused by systems of inequality based on, for example, gender or ethnicity. Facilitators should be mindful of the intersecting identities that might impact on their collaborators, audiences, and clients, and also of any potential biases that might arise either in themselves or in the conversations they are supporting.

LGBTQIA+

An abbreviation for Lesbian, Gay, Bisexual, Transgender, Queer or questioning, intersex, asexual and further identities not listed.

Microaggression

A term coined in the 1970s by Harvard university to describe subtle acts or communication that demonstrates the presence of bias, be it intended or not. Microaggressions can be passive aggressive and are often difficult to document or prove in the absence of witnesses and without recording conversations with people. However, the term "microaggression" doesn't fully communicate the actions' emotional and material effects and researchers found that experiencing what we know as microaggressions can be just as harmful, if not more, than more overt forms of racism with individuals experiencing 'subtler', multiple experiences of racism over period of time. Other terms or expressions used in the discussion around microaggressions include 'Its Not Micro' to highlight that the acts are not small and 'subtle acts of exclusion' (SAE) as a more neutral descriptor of the phenomenon (Harvard Buisness Review).

Microinvalidation

A form of microaggression that excludes or negates a person's experience, thoughts or feelings (Visions inc.).

Neocolonialism

Is the idea that even in a period of formal independence for many states, there persist colonial relations, through globalisation, capitalism and cultural forces to exert control. Often this is thought of through a post-1945 world order when European empires were broken apart but new, in many ways similar, international relations formed around colonial infrastructures. At the level of research, there is some concern that colonial extraction (of raw materials and labour) is replaced by the extraction of information (data).

Neurodiverse

Neurodiversity describes how people experience and interact with the world around them in many different ways; there is no one "right" way of thinking, learning, decision making and behaving, and differences are not viewed as deficits (Harvard.edu).

Non formal learning

Any organized, systematic, educational activity carried on outside the framework of a formal education system (Johnson and Majewska, 2022).

Parachuting in/Parachute research/ helicopter science

The practice of (often Western) researchers "dropping in" on (often non-Western) field sites with minimal engagement in context. It is widely seen as an extractive practice that maximises data gathering (often without sharing the data or communicating the results derived from it) with little concern for (often in-country) field workers, collaborating researchers, and research participants.

Positionality

The ways that an individual is positioned in relation to others. Your positionality is influenced by your unique set of intersecting cultural identities, social contexts and experiences that make up you and has influence on how you view and interpret the world. Characteristics include some which are fixed (e.g. gender, race, skin colour) and some which are changeable and based on life experiences and political/social views. Positionality is changeable (i.e., you are differently positioned in different situations) and always in dialogue with others.

Power dynamics

The movements and shifts of power in and between actors, groups of actors, institutions and society as a whole. Power dynamics can be subtle – that is, we're all influenced by the cultures we grow up and live in – or they can be expressed forcefully – for example, the state will make you answerable if you break the law. A key point of interest is detecting power dynamics in every-day interactions and beginning to change behaviours where necessary.

Privilege

The unearned advantages we have that are due to different aspects of our social and economic identity e.g. skin colour, sex, gender, religious beliefs, economic identity, mental health, physical health, access to education etc. Privilege is evident at every level of our lives, from the confidence to speak up for ourselves through to access to opportunity.

Protected characteristics

Are personal characteristics or situations that by law (UK Equality Act 2010) cannot be used as a reason to discriminate against someone. The nine protected characteristics in the UK are: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion and belief, sex, and sexual orientation.

Race

A human classification system that is socially constructed to distinguish between groups of people who share distinctive physical characteristics. "Race" is usually associated with biology, though neither race nor ethnicity can be genetically detected, and linked with physical, observable characteristics such as skin colour or hair texture. Racial categorisation has primarily been simplistic, essentialist, and typological in nature, forcing people to "fit" into categories that do not necessarily reflect their ethnic or national heritage. The legacies of racial and ethnic constructs can be spotted in everything from housing to health. Racial and ethnic prejudices affect the distribution of wealth, power, and opportunity, and create enduring social stratifications (adapted from Oxford bibliographies and National Geographic).

Relevant people (relevant actors, interested parties or relevant groups)

A term that is replacing the word stakeholder in people engagement. Relevant groups, relevant actors, interested parties and relevant parties are also used outside of a legal context. How to identify who is relevant is the same process used to identify stakeholders. This blog offers more information as does the publication '*Reimagining the language of engagement in a post-stakeholder world*' from Reed et al. (2024) as to the use of these terms versus the word stakeholder.

Sex

Assigned to a person on the basis of primary sex characteristics (genetalia) and reproductive functions. Sometimes the terms 'sex' and 'gender' are interchanged to mean 'male' or 'female'. (LGBTQ+ terms – Stonewall.org).

Situated knowledge

The idea that all knowledge comes from somewhere, from perspectives and presumptions that shape knowledge, either consciously or unconsciously. The idea of situated knowledge grew out of feminist thinking and scientific notions of objective truths that are, in fact, deeply rooted in cultural, societal and personal beliefs/ideologies.

Space

In the context of conversation, this is about providing the other person with the physical and mental space they need to feel valued and equal. Allow them to take up the same amount of space as you. The practice of active listening (see Active listening in glossary) helps you share the space equally.

Stakeholder

A term used to denote a person relevant to a project or a conversation (see Relevant People in glossary). The term is increasingly being replaced by alternates such as relevant people, relevant actors, interested parties or relevant groups due to its connections to when colonial attitudes were such that if you placed a wooden stake around a piece of land, you became the holder, the owner, of that land, regardless of whether that land was yours to take or not.

Tokenism

A practice when a person from a minority of any description (e.g. gender, age, race, religion, profession, discipline, geography) is invited to join a group of people who all share the same protected characteristics simply in order for the group to be able to say they work with that demographic. The most common example is when a woman from an ethnic minority background is invited to join a committee or a Board where everyone else is white and/or predominantly male. Diversity is about providing equal space to all.

Unconscious bias and unintended bias

Are ways of explaining that this bias is not something we are aware of without specifically thinking about it. We invite you to think about your biases before working with any community, sector or demographic outside your own.

Under-represented group

A person or group of people who are insufficiently or inadequately represented (holding a smaller percentage within a significant subgroup than the subset holds in the general population).

Values

Individual beliefs that motivate people to act one way or another. They serve as a guide for human behaviour and decision making. Values are influenced by our life experiences and positionality and the meaning or application of a value is nuanced i.e. what actively being 'passionate' as a value means to different individuals will differ in terms of the actions they demonstrate in living this value. Conflicts can result when people have different values, leading to a clash of preferences and priorities. (ethics unwrapped – edu texas).

Whiteness

Because race is socially constructed - and not biological - whiteness can be understood as the result of social and cultural processes, rooted in a global history of European colonialism, imperialism, and transatlantic slavery, and maintained today through various institutions, ideologies, and everyday social practices. Whiteness embodies both a material reality—connected to the disproportionate economic and political power wielded by those racialised as white, as well as a symbolic reality - shaped by the cultural meanings attached to whiteness as a form of inflated value, morality, aesthetics, and civilisation (from Oxford bibliographies).

©JD Scuba - Jake Davies

Setting the scene – why are we talking about EDI as a Project based in Wales?

To achieve impactful outcomes and create real and lasting resiliency, we must openly and authentically practice inclusion and diversity – making it a habit, and all serving as role models for others.

What is Equity, Diversity and Inclusion?

EDI (DEI or D&I are also used similarly) is an acronym often used as a term that seeks to capture a wide range of people and actions without specific focus on a particular group or need (Khuri et al. 2024). Working to be actively inclusive, to break down barriers to inclusion, to promoting and deliver EDI practices and embed EDI values is focused on ensuring every single person involved in or impacted by our work is valued, heard, respected, empowered, and feels a true sense of belonging. The application of EDI *practices and values aims to eradicate prejudice and discrimination on the basis of an individual or group of individual's* background which includes protected characteristics and intersectional identities (Inclusive Consulting, Equality Act 2010).

Inclusion in the environment sector

In the UK, the environment sector is the second least ethnically diverse sector behind farming (Policy Exchange, 2017; Racial Diversity in Environment Professions, 2022) and a wealth of research is available exploring and communicating injustices and power imbalances in the environment sector. Furthermore, the marine and coastal sector is one of the most complex sectors in the UK, and in particular marine sciences is the least ethnically diverse discipline in the UK (see Ethnic Diversity in the UK Marine and Coastal Sector - Accelerating Change, 2024; Ford et al, 2024, In review). Such work has identified systemic barriers (as illustrated in figure 1) which have resulted in a lack of diversity in people engaging fully with nature and the environment in the UK (Rudd et al 2021, The Glover Report, 2019) and globally (Gould et al. 2017; Green et al. 2015).

Figure 1. Overcoming racism taken from Rudd et al 2021

Rudd et al (2021) Overcoming racism in the twin spheres of conservation science and practice. *Proc. R. Soc. B.* **288:** 20211871 http://doi.org/10.1098/rspb.2021.1871

Those from minority ethnic backgrounds are also less likely to engage due to the lack of diversity associated with nature and conservation, outside working, and limited career prospects (NUS, 2018). A lack of a diversity of identities is mirrored in terms of accessing the outdoors, and a number of reports (see the Natural England MENE survey, 2014; The Glover Report, 2019; research by the Research Institute for Disabled Consumers (RiDC) and a review published by the Involving Young People Collective) identify that groups particularly underserved by greenspaces, despite the well-being benefits access to these spaces provides, include older people, disabled individuals, the young, those from lower socio-economic groups and Black, Asian and Minority Ethnic (BAME) communities. This lack of diversity in the environment sector is further compounded by the lack of socio-economic diversity in the UK charity sector, which includes environmental non-governmental organisations (Social Mobility in the Charity Sector, 2024). To address these imbalances, a number of non-profits and initiatives in the UK are working to bring together key actors working to increase diversity in the UK outdoors and environment sector such as All the Elements and the Wildlife and Countryside LINK network respectively.

In the context of Wales, several initiatives have also acknowledged the importance of access to nature spaces and the need to diversify the environment sector and work towards a better connected and more inclusive approach to working in the environment, this includes (though not limited to):

- The Race Equality Action Plan: an anti-racist Wales, led by Welsh Government

- The Well-being of Future Generations (Wales) Act 2015, led by Welsh Government through The Future Generations Commissioner for Wales' Office

- Development of Y Môr a Ni - The Welsh Ocean Literacy Strategy, led by the Coast and Seas Partnership (CaSP)

- The Collaboration and Diversity Project & Diversity Action Plan and EDI working group, led by Wales Environmental Link (WEL)

- Ocean Literacy in Wales: Headline Findings Report (naturalresources.wales) 2020, led by NRW and Defra

While associated initiatives and groups linked to further action relating to bettering EDI in Wales include (though not limited to):

- The LGBTQ+ Action Plan for Wales, led by Welsh Government

- The right to independent living framework and action plan, led by Welsh Government

- The Disability Equality Forum and evidence units, convened by Welsh Government

- The Strategic Equality Plan for Wales, led by Welsh Government

- The Equality and Human Rights Monitor: Is Wales Fairer?, a series of reports published every 5 years by the Equality and Human Rights Commission

- Registered charities such as the Ethnic Minorities and Youth Support Team Wales and Diverse Cymru

The marine environment and associated spaces across the coastline of Wales have a vital role in natural, cultural, social and economic heritage (see Kelly et al. 2023; McKinley et al. 2023 and references there-in). They are important places for both local communities and visitors, supporting both leisure activities and livelihoods, and are home to unique biodiversity e.g., angelsharks.

For marine conservation to truly succeed in our changing world, individuals, communities, local government, and organisations must all have a seat at the table and feel that they can meaningfully contribute to the co-design of projects (see Archer et al. 2022; Fronteer, 2021; Staddon, 2021 and references there-in). Time and care need to be taken when working with communities so that their knowledge and experience can shape project design and delivery (see Bennett et al. 2023). Communities, and particularly individuals from underrepresented backgrounds, can no longer be excluded or remain token representatives.
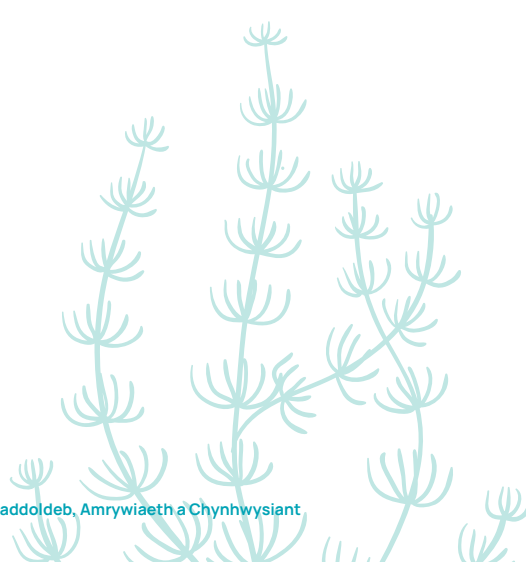
Project SIARC and EDI

Project SIARC aligns with priorities set out by the [Welsh National Marine Plan](#) and contributes towards enhancing the resilience of marine biodiversity, ecosystems and coastal communities. However, these benefits will not materialise or be sustainable without equity and inclusion.

Reflecting and recognising that there needs to be a shift in approach to fully address barriers to inclusion in the environment sector, Project SIARC is actively working towards stepping into a more supportive, nurturing, and capacity-sharing space with communities it wishes to work with, to elevate every person and appreciate the value added of the diversity of thought and experience.

What is this document and how to use it

This review captures work undertaken 2021 – 2023 and is complimented by the development of the Project SIARC EDI Action Plan which will set out our aspirations from 2023 to 2026.

This document sets out our objectives, approach and findings to date, capturing learnings from Project SIARC Phase 1. As a review piece, it is designed to act as a reference and guidance document that echoes the views and values of both the project and the communities who work with us.
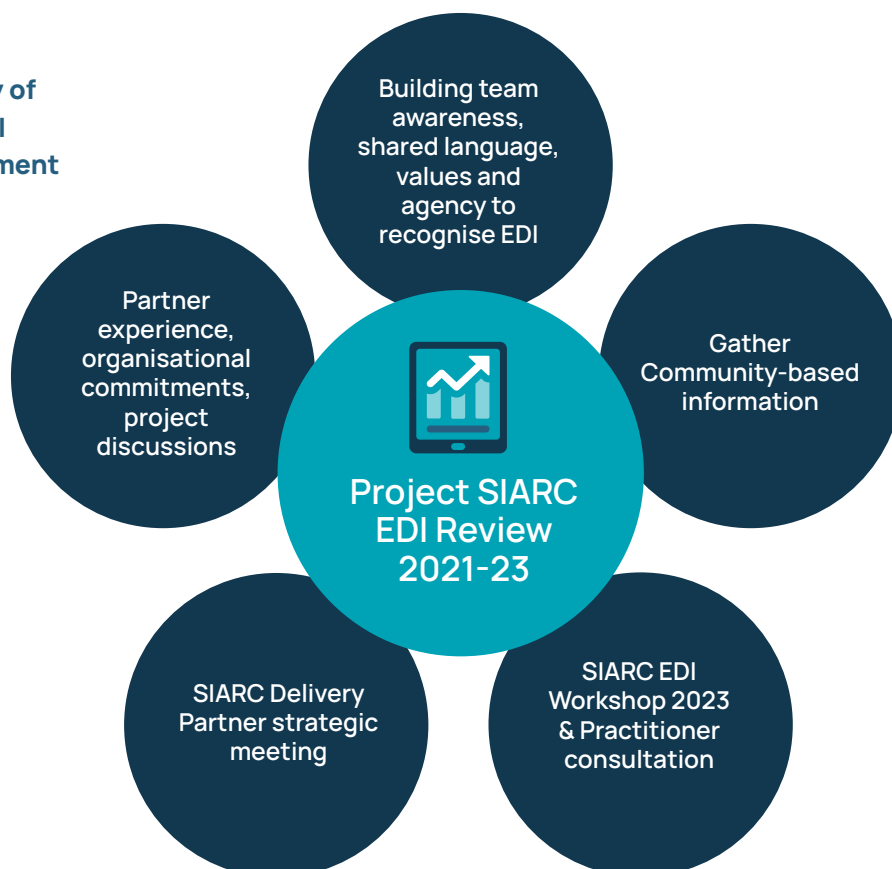
In the long-term we hope that by sharing this document with conservation practitioners working in Wales, the learnings and approach detailed within will help inform current and future projects and support a broader representation of people to participate in conservation. As a team, we are driven to see a systemic change within our sector, continually learning from others with the same commitment to relearning and rebuilding.

Producing this document

The production of this document was facilitated through i) reflective consideration of ways of working as a project and ii) an in-depth dive into our community engagement. With reference to 'ii)' this work has contributed to better understanding the experience of local communities, the barriers they face, and the identification of pathways to overcome those barriers that Project SIARC can facilitate (Figure 2).

An initial draft of this document was produced by a sub-group of the Project SIARC partnership and between December 2023 and June 2024, a two-stage review process of the initial draft was undertaken (detailed in appendix 1). The purpose of this review was to ensure the document authentically i) reflects the voices of those who were involved in Project SIARC Phase 1 and ii) that the conclusions presented are both clearly articulated and realistic.

Figure 2. Summary of Project SIARCs EDI strategic development

Building team awareness, shared language, values and agency to recognise EDI

Partner experience, organisational commitments, project discussions

Gather Community-based information

Project SIARC EDI Review 2021-23

SIARC Delivery Partner strategic meeting

SIARC EDI Workshop 2023 & Practitioner consultation

©JD Scuba - Jake Davies

Representation of diverse voices within this document

While Project SIARC has made our best efforts to reach a wider audience, we acknowledge that many voices are missing from the work and only by continuing to develop and evolve our approach to bettering equity and inclusion within the project will we be able to achieve positive outcomes for all. In Project SIARC Phase 1 we have actively worked with individuals from farming communities, youth in college, youth in universities, individuals with physical disabilities or impairments, neurodiverse individuals, male and female individuals and individuals of both Welsh and English nationalities. We recognise to date we are yet to work extensively with individuals from ethnic minority backgrounds or members of the LGBTQIA+ community. We also recognise that we have worked with a restricted number of individuals and that their personal experiences are not transferable to all individuals who have similar shared protected characteristics.

Our approach

The development of this EDI review and Project SIARC's EDI work to date has focused on the Northwest of North Wales, working specifically with communities living around the Pen Llŷn a'r Sarnau (PLAS) Special Area of Conservation (SAC).

PLAS SAC covers over 146,000 hectares of sea, coast, estuary, lagoons, bays, sandbanks and reefs that support diverse wildlife, including those unique to Wales (Figure 3). Since 2017, Angel Shark Project Wales (ASP:W) and Project SIARC have established much of our community, fisher and citizen science engagement in PLAS SAC due to the location of Project SIARC staff.
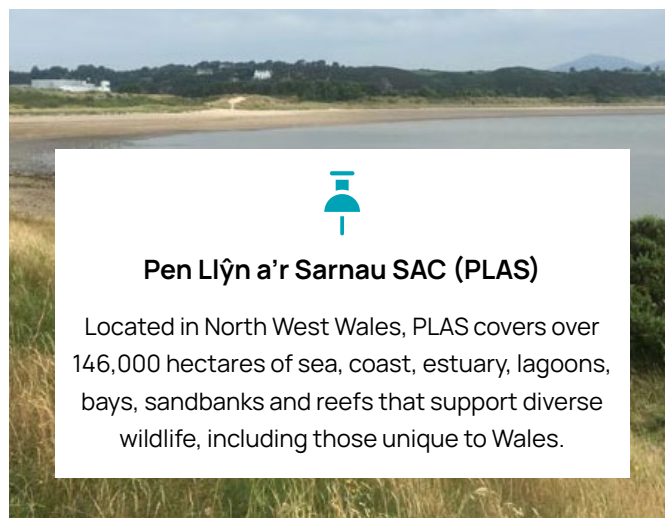

Pen Llŷn a'r Sarnau SAC (PLAS)

Located in North West Wales, PLAS covers over 146,000 hectares of sea, coast, estuary, lagoons, bays, sandbanks and reefs that support diverse wildlife, including those unique to Wales.

Figure 3. A short profile of Pen Llŷn a'r Sarnau Special Area of Conservation (SAC)

Our Goals

Our approach to developing Project SIARC's EDI work and commitment to promoting fairer conservation practices through improving the inclusivity and equitability of Project SIARC focuses on two interlinked goals:

a. For a more diverse community to be engaged with and served by the marine environment in Wales.

b. To tackle the lack of diversity and inclusion within Project SIARC, thereby contributing to wider systemic change.

Table 1. A summary of Project SIARC community initiatives offered during Phase 1

Work packages	About	Project lead
Fisher partnerships	Project SIARC met with recreational, commercial and charter boat fishers across Wales to listen, learn and share information on elasmobranchs and fishing practices	ZSL & NRW
School children	**3D printing in schools:** 10 schools around the Carmarthen Bay and Estuaries SAC engaged in school based activity sessions. Project SIARC provided training in 3D printing technology, allowing students to design and create 3D model exhibits featuring flagship species	Swansea University
	Meet the scientist: 30 schools engaged with 'Meet the Scientist' sessions completed via Microsoft Teams	ZSL & NRW
Citizen Science	**Archival research:** Citizen scientists were trained to scour their local archive, library, or museum for elasmobranch records.	North Wales Wildlife Trust
	Great Eggcase Hunt: Citizen scientists discovered elasmobranch eggcases in their local area and beaches	North Wales Wildlife Trust and the Shark Trust
	Instant Wild: Citizen scientists have explored the underwater world through ZSL's online instant Wild platform, watching clips from submerged cameras and identifying species they spot along the way	ZSL
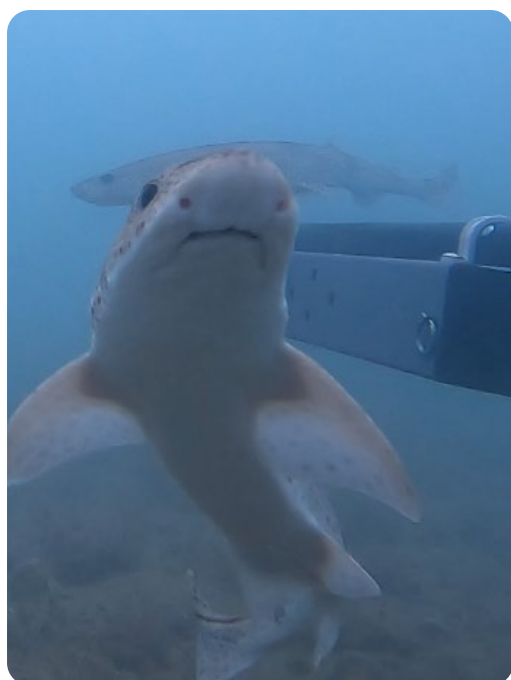
Instant Wild

Archival research

Developing a fairer approach to delivering conservation through Project SIARC

During Project SIARC Phase 1 (Oct 2021 – March 2023) we designed the following objectives:

1. **Come together** and **develop** as a team to further our learning, ability, and confidence to work with underserved audiences and issues related to Equity, Diversity and Inclusion (EDI).

2. **Identify** which audiences (identities) we would focus our work with during Project SIARC Phase 1 based on existing relationships and need (i.e. gaps within our current work).

3. **Agree** on where to focus geographically across the project locations.

4. **Understand** knowledge, perceptions and values held by diverse communities in relation to marine conservation.

5. **Listen** and work with underserved audiences to help us better understand the barriers and opportunities for communities to engage with marine conservation and science.

6. **Build a network** of diverse partners and contacts working in this area within Wales and beyond.
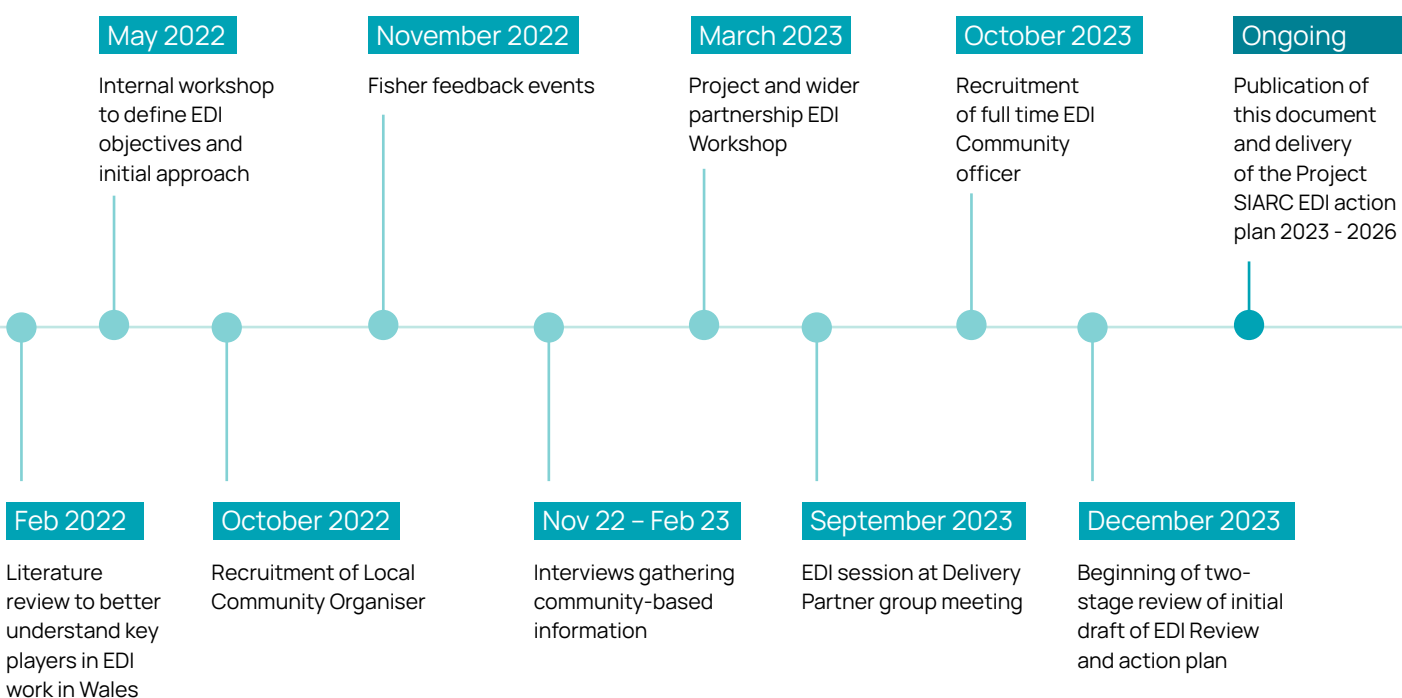
7. **Develop** our teams learning, ability and confidence to work with underserved audiences.

8. **Co-develop** a strategy with communities to embed Equity, Diversity and Inclusion within Project SIARC and identify opportunities for action for 2023 onwards.

To deliver these objectives, Project SIARC Phase 1 activity focused on three main areas of work (Figure 4), delivered through a mixture of non-formal, informal and structured learning and research approaches:

1. Building internal team awareness, shared language, values and agency to recognise EDI.

2. Working with community members and groups from historically excluded backgrounds to listen and learn from their lived experiences.

3. Delivering structured learning and co-designing a strategic approach to enhancing EDI practice for the future of Project SIARC.

Project SIARC Phase 2 continues to develop this work and support the identification of next steps through the development of the Project SIARC EDI Action Plan.

Figure 4. Timeline of activities supporting Project SIARCs EDI strategy

May 2022
Internal workshop to define EDI objectives and initial approach

November 2022
Fisher feedback events

March 2023
Project and wider partnership EDI Workshop

October 2023
Recruitment of full time EDI Community officer

Ongoing
Publication of this document and delivery of the Project SIARC EDI action plan 2023 - 2026

Feb 2022
Literature review to better understand key players in EDI work in Wales

October 2022
Recruitment of Local Community Organiser

Nov 22 – Feb 23
Interviews gathering community-based information

September 2023
EDI session at Delivery Partner group meeting

December 2023
Beginning of two-stage review of initial draft of EDI Review and action plan

Reflecting on Project SIARC Phase 1
(October 2021 – March 2023)

Project SIARCs continuous move to diversify is informed by the integration of Phase 1 learnings, partnership objectives and partnership staff, practitioner and organisational experiences.

The following sections will provide an overview of Project SIARC Phase 1 activity under the three work areas outlined previously (in *Our approach*).

Building team awareness, shared language, values and agency to recognise EDI

We took a multi-pronged approach towards developing the Project SIARC lead partner (ZSL & NRW) team's capacity, confidence, knowledge and ability to engage with EDI topics to support the development of a more inclusive approach to our work. This included three main activities:

a. **A review of ongoing EDI work in Wales** completed through a literature review.

b. **Non-formal and informal learning** made up of:

    I. **Reflexive team sessions** and development of practices to support us in recognising our privileges and power in the conservation space.

    II. **Workshops on the theme of inclusive and ethical conservation practices** attended by individuals, who shared learnings within the team.

A review of ongoing EDI work in Wales

In February 2022, a sub-group of the Project SIARC team (based at ZSL & NRW) conducted a literature review to further their understanding of work that has already taken place around diversity and inclusion in Wales. The purpose of this review was to ensure our work aligned with the current context and to identify opportunities for future action. This piece supported the team to familiarise themselves with the current EDI work happening in Wales and beyond, which in turn provided an initial network to work with in the early stages of Phase 1. The literature review started by looking at reports, peer-reviewed journal articles and grey literature related to Wales and published within the last ten years (2012-2022), and then widened to include PLAS SAC and Carmarthen Bay and Estuaries (CBAE) SAC. The results of this were purely for the team to situate their knowledge and build contacts during the early investigations and therefore there is no publicly available in-depth report. However, a brief summary of results can be found in appendix 2.

The literature review was centred around two themes and a combination of different search terms (see below).

> **Theme 1:**
> **Diversity and Inclusion in conservation in Wales**
>
> **Search terms:** Wales, environment, diversity and inclusion, D&I, marginalised groups, equality, EDI, conservation, Pen Llŷn a'r Sarnau, Carmarthen Bay and Estuaries

> **Theme 2:**
> **Diversity and inclusion in marine conservation in Wales (elasmobranchs in Wales)**
>
> **Search terms:** Wales, environment, fishers, coast, elasmobranchs, skates, sharks, rays, marine, science, research, conservation

Outcome of the review

In total, 83 articles were extracted as part of the literature review process and three key themes emerged:

- Very little work had been done around diversity and inclusion in Wales in the conservation sector.

- Transport and distance travelled is a key barrier to communities getting involved in outdoor activities.

- Factors that influence marginalised individuals in Wales include socio-economic status, age working background and sexual orientation. Feelings of marginalisation were reported to be specifically felt in Wales by individuals involved in agriculture, individuals that are members of the LGBTQIA+ community and individuals who are elderly.

The names and organisations working on diversity and inclusion in Wales were also recorded to develop an initial database of contacts (n = 40).

During this work we were also able to identify key reports that were in development at the time to align our work with. This included the Race Equality Action Plan; creating an 'anti-racist Wales', produced by Welsh government.

Non-formal and informal learning

The non-formal and informal learning took place ad-hoc throughout the entire duration of Project SIARC Phase 1, through the sharing of resources and readings, attendance of workshops, facilitated discussions during team meetings and exchange of learnings and experiences with the wider partnership and EDI practitioners. The processes of non-formal and informal learning were not set up to be formally evaluated. However, through reflexive and honest self-inquiry team members were asked to provide feedback on i) their own sense of their learning, ii) what has felt a success and iii) where they would like more support (Figure 5).

Figure 5. Collated self-reflective evaluation on team experiences of non-formal and informal learning

Team member A

"Over the last 18 months I think I have personally got a better grasp on EDI, particularly through a better understanding of terminology and how we can embed EDI better into our projects. I have read a lot of resources I've found really interesting and helpful, and activities such as the EDI workshop has given me the space to listen to different perspectives and challenged the way I think about certain things — for example, making a conscious effort to be more aware of biases, both my own and from others. I would like to continue improving on this topic, particularly through building confidence on how I communicate the work we're trying to do on EDI in Project SIARC. I have massively valued the support received whilst learning in this space, and would like to make sure going forwards I continue to keep up to date on the topic, with new resources and through project outputs like the Human Ethics Form, EDI strategy and writing my own positionality statement that I can update going forwards as and when needed."

Team member B

"Since that point, I attended the 'Parachuting In' event at RGS and completed the online Race Equality Week (REW) e-learning; both of which have provided important moments of reflection for both myself and the projects I manage. I have identified immediate ways we can make improvements (e.g. through completing an online course on Welsh history and language; improving the PSIARC recruitment process to enable a wider range of people have access to new jobs in Wales; and sharing REW learnings with the team), but also doubled-up my confidence in integrating EDI in my project-management workload in years tocome. I feel that I have come along way in 18 months - moving from the fear zone (2021); starting the learning zone (2022) and hoping to move further into the growth zone in 2023. I'm really excited to see what the project will achieve over the next three years, with EDI embedded throughout different elements of the project rather than a separate workpackage, and I hope this journey has begun with the EDI workshop last month."

Team member C

"The last 18 months for sure have been a big learning curve where I've learnt a huge amount from on EDI, in particular the terminology. Where the workshop I felt brought all these learnings together and provided a space to practice elements and allow for the honest and open conversations. It's helped with confidence in being able to talk about the topics. One of the biggest learnings from the terminology was positionality and how important it is to understand your own and how it can be perceived by others. Going forward, keeping this in mind is something I want to make sure that I do especially when it comes to presenting to new people - giving a few points about yourself definitely helps.

I want to Thank you again for your time and helping us with all the new terminology and sharing your own knowledge in the area which has been great. Looking forward to learning more and making sure that it's a key part of the project going forward."

Team member D

"Being part of the diversity and inclusion Project SIARC workstream over the last 18 months has been an extremely rewarding experience on both a professional and person level. Although challenging initially it has made me reflect on many aspect of the work I do as a science and conservation practitioner, and has made me realise there is a huge amount of ground to cover in terms of making everything we do more inclusive to the people and groups we work with on a regular basis. The knowledge gained has been truly invaluable from all the way from a basic level around understanding the impact of the terminology we use to ensuring that we are constantly questioning the approaches we deploy and the mindset we take to ensure that we are reaching all people in a equitable way."

Team member E

"It's been a big learning journey for me, which I know has more to go! I have learnt so many new words, or in some cases words I had heard but hadn't quite grasped fully what they meant and definitely wouldn't have felt comfortable using them. I felt quite proud when I realised that I was now comfortable with a lot of the words in the glossary when I looked at it in the D&I workshop, and have really tried to think more about their meanings and how to incorporate them and ways of thinking into my work and life. I feel more comfortable in talking about certain things now, and am more conscious that I enter without bias into conversations with people - I might have been doing this before but I am actually thinking about it now - if that makes sense?!

One of the things that I've thought about is positionality, and I do find that challenging, I think a bit of support with that would be good as I still don't think I could say with confidence my positionality yet.

I also really want to thank you – you are so patient and knowledgeable, and you really help so much in the way you articulate and explain things so well."

Synthesis on building team awareness, shared language, values and agency to recognise EDI

The development of Project SIARCs teams' awareness and knowledge combined with exchanging wider partnership experiences and EDI practitioner advice has been vital to start working towards our goals. This process increased both the teams' confidences and teams abilities to engage with EDI topics and embed learning into the way we work as a project. Looking forward, learning practices from Project SIARC Phase 1 will support the continued development of the project team throughout Project SIARC Phase 2.

Working with community members and groups from persistently excluded backgrounds to listen and learn from their lived experiences.

In October 2022 Project SIARC Local Community Organiser, Kathryn Whittey was recruited, increasing team capacity to work with local communities. Between November 2022 and February 2023, research was completed to gather local community perceptions of, and relationships with, the Welsh marine environment and coastline. The overarching aim of this work was to identify barriers to, and opportunities for, inclusive practices. Learning from this work is a key outcome of this review and has informed the project's approach towards ensuring we are intentionally designing and resourcing opportunities and new collaborations which are relevant to the communities we work with.

Recruitment and development of a network

To gather community-based information, individuals were initially recruited based on the social network of the Project SIARC Local Community Organiser, Kathryn Whittey (hereafter referred to as PI (Principal Investigator)). Kathryn is local to Dolgellau, North Wales, and as an "insider", personal connections were advantageous for recruiting individuals. From this initial inner circle, snowball sampling was used to recruit a range of further project respondents. This recruitment approach combined with the literature review supported the expansion of the projects network of contacts within Wales, strengthening our understanding of the EDI space and enabling us to reach a diverse network of individuals.

Our database of contacts continues to grow as outreach evolves and we acknowledge that many people's voices are still to be heard. The inclusion of more voices, and diverse perspectives, is a key focus of Project SIARC Phase 2.

Gathering insights

Two approaches were used to gather community-based information: i) key informant interviews (KIIs) and ii) Focus Group Discussions (FGDs). Where possible, informal, free-flowing conversation preceded interviews to ensure respondents felt at ease during the conversation. This was particularly important when establishing new relationships.

In total, 11 pre-set questions (Appendix 3) were asked during interviews, with several ad hoc questions being added where appropriate and necessary. Questions were designed to be non-leading and followed four central themes:

1. **Attitudes and connection** between people, the marine environment and marine conservation.

2. **Knowledge and awareness** of opportunities and barriers to connecting with the marine environment.

3. **Where does Project SIARC sit?** i) What do people know about us, ii) what do people know about what we currently offer, and iii) what else can we do to expand our offering?

4. **Interpersonal connection**. Where do people prefer to get their information from and how do they prefer to receive information? Do they actively seek out information?

KII's were used to collect in-depth insights from individuals and community groups using approaches outlined in Newing (2010). FGDs were used as introductory sessions to present Project SIARC to groups and have wider discussions around perceptions of, and relationships with, the Welsh marine environment and coastline. FGDs were completed with two community groups – a local Girl Guides group (n = 6) and students at a local college (n = 7). FGD attendees were also invited to participate in follow up surveys. In the case of the students, the students responded to the survey under classroom conditions in the presence of their lecturer, and the survey was integrated into their curriculum.

FGDs (n = 3) were also completed with fishers in Pwllheli (n = 3), Barmouth (n = 1) and Aberystwyth (n = 2) in November 2022. Fishers did not take part in KIIs and we acknowledge there is still further work to be done by Project SIARC to further understand the experience of fishers we work with (and those we do not work with) and the barriers they face.

Individual community interviews were conducted in a range of different formats, including in-person meetings (n = 13), phone calls (n = 4), video meetings (n = 1) and online surveys (n = 17). In total 34 respondents took part in KIIs, with 35% of respondents (n = 12) having engaged with the project beforehand, either through an informal chat or group outreach session.

Analysis of interview outputs

Respondents' data were analysed using thematic coding, a form of qualitative analysis that involves recording or identifying passages of text or images that are linked by a common theme or idea allowing you to index the text into categories and therefore establish a "framework of thematic ideas about it" (Gibbs, 2007). Initially, overarching themes were identified through an iterative thematic coding process (Newing, 2010), respondents' data were then broken down into key themes and analysed further (Table 2).

Table 2. Summary of initial iterative thematic coding of respondents data

Category	Sub - Category	Code	Text
Emotive	Positive	Positive	Calm, connection, love,
	Negative	Negative	Anger, annoyed, fear,
Behavioural	In water	Positive	Water sports, Volunteering, fishing
		Negative	Swimming, SUP
	Land-based	Positive	Seabird surveys, litter picks (individual and group), reading
		Negative	Consumption of seafood, documentaries
	Land and Sea	Positive	Cetacean surveys, island trips, experiencing human-nature connection, fishing
		Negative	Fishing
Knowledge	Wildlife	Positive	Birds, cod, dolphins
		Negative	Jellyfish, weaver fish, marine creatures
	Fisheries	Positive	Mackerel, lobster, handline fishing
		Negative	Destructive fishing, cruelty, octopus
	State of the sea	Negative	Abused, exploiting, lack of conservation in the sea
	Other	Negative	Lack of awareness, plastic, pollution
	Projects	Positive	Marine conservation, litter picks, cetacean survey
	Human-nature connection	Positive	Vital
Spatial/ Aesthetic	Positive	NA	Beach, beautiful, blue
	Negative	NA	Brown
	Neutral	NA	Wind turbines, stone, cliffs

Table 2. Continued

Category	Sub - Category	Code	Text
Opportunities known about	In water	Positive	Snorkelling, SUP, swimming
		Negative	Diving, Sailing, SUP
	Land-based	Positive	Litter picks, lifeboat engagement, walking
		Negative	Litter picks
	Land and sea	Positive	Sea watch foundation, leisure activities
		Negative	Clubs
Barriers	Ability	Negative	Eyesight, access (physical ability)
	Psychological		Fear of water, fear of wildlife, agency
	Access		Physical access to beach or sea
	Aesthetics		Industrial, litter
	Physical		Climate, distance, sewage, weather, cold
	Travel		Buses, travel
	Knowledge		Education, lack of awareness
	Other		Time, crowds, money, safety, communications, clubs, social groups, age
	Logistics		Health and safety
	Weather/climate		Cold, wet
	Communications		Lack of awareness
	Money		Costs
	Safety		Personal safety
	Social circles		Personal safety, shared interest
	Crowds/tourists		Avoid crowds
	Age		Content aimed at kids
	Agency		Lack of capacity to do anything
	Beginner Opportunities		Introductory sessions
	Sewage		Brown water, knowledge of sewage

Results

Participant demographics

Full demographic data of research respondents is summarised in appendix 4. Interviewees were associated with 11 locations, predominately representing the Northwest of North Wales, with some individuals splitting their time between North and South Wales (Figure 6). Respondents came from a range of age groups and were representative of a 50% to 47% gender split between Male and Female with 3% of respondents preferring to not identify (Figure 6). In total respondents self-identified as coming from 13 different working backgrounds (Figure 6).

Key themes from KIIs

From initial thematic coding six overarching categories were identified (summarised in Table 2):

1. **Emotive** – Emotional responses to the marine environment.

2. **Spatial/Aesthetic** – Spatial, tangible or aesthetic elements regarding the coast.

3. **Knowledge** – Knowledge of the marine environment, including wildlife, fisheries, projects, state of the sea and other.

4. **Behaviour** – Behavioural actions that are actively completed by engaging with coast or marine conservation.

5. **Opportunities known** – Words describing opportunities which are known about but not undertaken.

6. **Barriers** – Barriers experienced by respondents preventing them from engaging with the coast or marine conservation.

Figure 6. Summary of participant demographics, including age, location and gender, n = 2 respondents split their time between time between North and South Wales (Gower/ Dolgellau and Swansea/Dolgellau)

11 sites

Dolgellau (n=14)

Gwynedd (n=11)

Bangor (n=1)

Blaenau Ffestiniog (n=1)

Corris (n=1)

Criccieth (n=1)

Mold (n=1)

Rhyl (n=1)

Valleys (n=1)

Gower/Dolgellau (n=1)

Swansea/Dolgellau (n=1)

Self-Identified Working Backgrounds

- Community member
- Education
- Farmer
- Retail
- Student
- Christian centre volunteer
- Council
- Social enterprise
- Social worker
- Girl Guide
- Retired
- Blogger
- Trade

No.	Age Group		
8	<18	1	45 - 54
8	18 - 24	6	35 - 64
5	25 - 34	2	65+
1	35 - 44	3	NA

Gender

50%	Female (17)	
47%	Male (16)	
3%	Prefer not to identify (1)	

These themes alongside examples of text and quotes from interviews are presented below in Table 3. The following results section provides further information related to each identified theme. At this time, further analysis of the theme 'spatial/aesthetic' was not completed due to availability of resources and team capacity.

Table 3. Summary of all codes with examples following initial thematic coding of respondents data

Category	Sub - Category	Code	Text	Quote
Emotive	Positive	Positive	calm, connection, love, constant change, curiosity, exhilarating, freedom, fresh, fun, happy, invigorating, joy, mental health, nostalgic, peace, peace of mind, power, wisdom, wonderous	*Love it, happy place, peaceful. I enjoy being in the water and seeing wildlife*
	Negative	Negative	anger, annoyed, fear, desperate, distressing, hopeless, limited, lonely, petrified, worried	
Behavioural	In water	Positive	water sports (canoeing, sup, swimming, social media, study, surfing, volunteer (aquariums – Rhyl and Anglesey; WWF), go to the beach, water sports (canoeing, sup),	*I read a book called cod – conservation book about recipes through the ages, it messed my brain up and showed how we exploited the ocean*
		Negative	swimming, sup	
	Land-based	Positive	seabird surveys, litter picks (individual and group), social media, reading	
		Negative	consumption of seafood, documentaries	
	Land and Sea	Positive	cetacean surveys, island trips, university clubs, experiencing human-nature connection	
		Negative	fishing	

Table 3. Continued

Category	Sub - Category	Code	Text	Quote
Knowledge	Wildlife	Positive	angelshark, basking sharks, birds, cod, coral, crabs, dogfish, dolphins, birds, cod, coral, crabs, dogfish, dolphins, eels, egg cases, fish, jellyfish, leatherback turtle, mackerel, manx shearwater, marine mammals, octopus, porpoises, puffins, rich sea life, rockpools, salmon, sand eels, scallop, seabirds, seals, seaweed, sharks, tope, turtle	*...we had those holidays in Anglesey which were amazing we'd see sea gull smashing up shells to eat...starfish, it was so magical, we saw shrimps...*
		Negative	jellyfish, weaver fish, marine creatures	
	Fisheries	Positive	mackerel, lobster, handline fishing	
		Negative	destructive fishing, cruelty, greed, octopus, lobster, destructive, ghost fishing, greed, wasteful, diminished, scallop, fishing regulations, overfishing	
	State of the sea	Negative	abused, exploiting, lack of conservation in the sea, not healthy	
	Other	Negative	lack of awareness, plastic, pollution, tides, riptides, rubbish, sewage, threat	
	Projects	Positive	marine conservation, litter picks, cetacean survey, coral restoration, marine conservation society	
	Human-nature connection	Positive	vital	
Spatial or Aesthetic	Positive	NA	beach, beautiful, blue, cliffs, deep, fresh air, grey, linked to land, natural, nice, rocks, salt, sand, sea glass, separate to land, shells, space, special, sun, water, openness, vast, waves, wet, wild	*Open expanse, Freedom and happiness with distant horizons. I think of it as a space rather than of marine life and don't think about what's under the waves*
	negative	NA	brown	
	Neutral	NA	wind turbines, stone, cliffs	

Open expanse. Freedom and happiness with distant hoizons. I think of it as a space rather than of marine life and I don't think about what's under the waves."

Local Girl Guides Brown Owl

Table 3. Continued

Category	Sub - Category	Code	Text	Quote
Opportunities known	In water	Positive	snorkelling, surfing, sup, swimming, rowing	*I don't know for certain. I am guessing that you would need to join a society or club. I know that if one goes on holiday to sunny places there are trips to look at marine life. However, I am not aware of any such trips in North Wales or in Wales. Perhaps there is a commercial opportunity or public opportunity to do this.*
		Negative	diving, sailing, sup	
	Land-based	Positive	litter picks, lifeboat engagement, walking	
		Negative	litter picks	
	Land and sea	Positive	sea watch foundation, leisure activities	
		Negative	clubs	
Barriers	Ability	Negative	eyesight, access (physical ability)	*Access to the beach itself, at Fairborne, no ramp so wheelchairs can't get down and it's the same for horses, the can't get down onto the sand.*
	Psychological		fear of water, fear of wildlife, agency	
	Access		physical access to beach or sea	
	Aesthetics		industrial, litter	
	Physical		climate, distance, sewage, weather, cold	
	Travel		buses, travel	
	Knowledge		education, lack of awareness	
	Other		time, crowds, money, safety, communications, clubs, social groups, age	
	Logistics		health and safety	
	Weather/climate		cold, wet	
	Communications		lack of awareness	
	Money		costs	
	Safety		personal safety	
	Social circles		personal safety, shared interest	
	Crowds/tourists		avoid crowds	
	Age		content aimed at kids	
	Agency		lack of capacity to do anything	
	Beginner Opportunities		introductory sessions	
	Sewage		brown water, knowledge of sewage	
	WiFi		lack of access, costs	
	Time		time to commit to recreation	

Emotion and the coast – How do you feel about the sea and the coast?

Emotive responses were given by 74% (n = 25) of respondents when answering how they felt about the sea and the coast. The remaining 26% (n = 9) of KII respondents had no emotive response and 89% (n = 8) of these individuals listed above average numbers of the other thematic responses (barriers, behaviours, knowledge or spatial/aesthetic). The majority of surveys where respondents did not have an emotive response took place via self-completion surveys following a structured learning session which may have influenced their responses.

Interview responses initially coded as 'emotive' (Figure 7) were then further sub-categorised as either positive or negative (Table 3). During KIIs respondents gave multiple emotive statements (n = 50) with many containing exclusively positive emotive responses (n = 62) such as:

> *Absolutely **love** it, elated when I'm near the sea, I feel **alive**."*

> *Open expanse. **Freedom** and **happiness** with distant horizons. I think of it as a space rather than of marine life and I don't think about what's under the waves. I think of birds."*

> *Love it, **happy** place, **peaceful**. I enjoy being in the water and seeing wildlife."*

> *I **love** visiting the coast and plan family holidays to the sea every year. Some of my most treasured memories of my childhood are spending time with my family at the beach. It was also important to me to share my love of the sea with my son and have taken him to the coast every year since he was a baby."*

> *A sense of **wonder** – **love** swimming-sense of **freedom**. **Excitement** – I was always thinking what's under that crevice?"*

No individuals made statements that were exclusively negative but where negative statements were made they were combined with positive statements

> ***Love** the sea and coast. **Peace**. I think of **power** too. I associate a lot of **emotion** with the sea. Either calm or rough, **constant change** – think **mental health**. Constant state of change. Positive in general. Think of it as an environment linked to the land- seperate from land but also connected somehow... The sea itself **scares** me – not a hugely confident – nearly drowned and also I am often thinking what is in there? – it's the unknown."*

> ***Sad**. **Love** to be by the sea and on the beaches but the depletion of fish is staggering, sea turtles covered in plastic and overfishing."*

> ***Calm**, **interesting**, **mysterious**, **fun**, unknown and therefore **scary**."*

The emotive response "Love" was used twice by one respondent describing a desire to learn more, and a desire for more opportunities. While one respondent used the term "desperate" to describe their desire to do something involving marine conservation. Another felt "limited" by their perceived lack of opportunities and another "annoyed" that opportunities are not aimed at adults.

Figure 7. Word cloud depicting a summary of emotive responses , the larger the word the more often the word was mentioned

Knowledge of the coast – how much do you know about the coast and marine conservation?

Of the 34 respondents, 79% (n = 27) of individuals clearly outlined how much they feel they know ('level of knowledge') about the coast (Figure 8) with nine individuals also stated that they "wish they knew more" or said they were not satisfied with how much they know.

Figure 8. Respondents self reported 'level of knowledge' about the Welsh coast
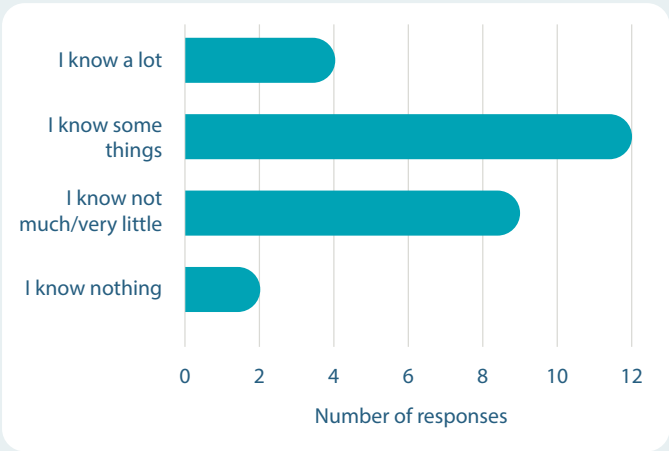
When asked how respondents were most likely to obtain information, common methods included watching items on TV such as documentaries (n = 10), closely followed by social media (n = 7) (see Table 4). Many of the respondents (56%, n = 19) also shared that they spoke with friends and family about the coast or marine conservation (n = 19).

Table 4. Summary of all codes with examples following initial thematic coding of respondents data

Source of information	Number of respondents
TV	10
Social media	7
Online news on TV	4
Internet	4
Newspapers	2
BBC website	2
School	2
Magazines	1
Radio	1
Outreach events	1
Independent research books, websites, articles	1
Books	1
Newsletters	1
Accredited websites	1

Barriers, opportunities known and current behaviour – Do you feel like there are opportunities to engage with the sea and coast and are there enough opportunities to engage in marine conservation? Do you experience any barriers to engaging with the coast?

Barriers were listed throughout the interviews and surveys. Many respondents spoke of barriers before primed directly with the question (or a variation of the question) "*Do you experience any barriers to engaging with the coast?*". For example, when asked if they thought there were opportunities to engage in marine conservation, five respondents listed ways in which they are actively engaged (See Table 5). However, 32 statements regarding barriers were also given by respondents as reasons for not participating in marine conservation. These were grouped into the following themes: behaviours (n = 24), emotive responses (n = 5), accounts of knowledge (n = 35) and opportunities (n = 5). Although, many respondents who felt there were no opportunities to engage in marine conservation did mention litter picks or beach cleans. Respondents visited the coast at varying frequencies, with the regularity of visits to the coast varying from a few times a year to everyday (Figure 9).

Overall, there was a near 50:50 split as to whether respondents felt like they had, or did not have, opportunities to engage with the sea and coast (n = 18 positive, n = 17 negative). Opportunities that were listed included 'in water' activities such as swimming, Stand up Paddleboarding (SUP) or surfing; 'land-based' activities such as walking, socialising, fossil hunting; or 'land and sea' volunteering, cetacean surveys etc (see Table 5). When asked if they understand marine conservation, 62% (n = 21) of respondents felt they understood the subject and 35% (n = 12) of respondents felt they did not.
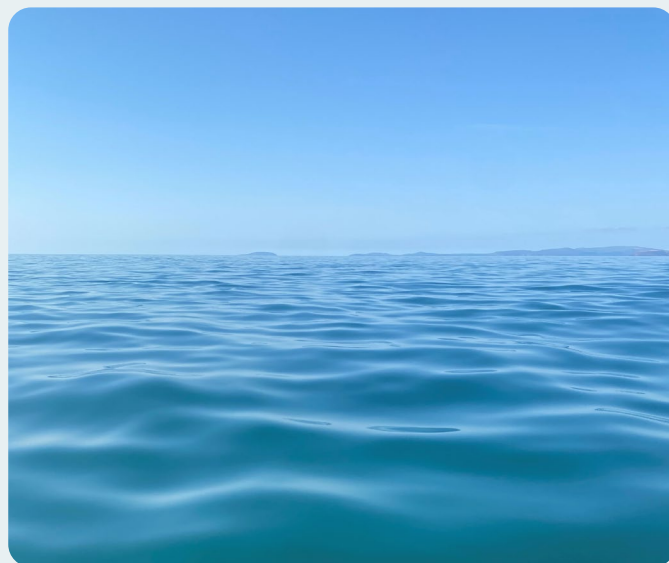
Figure 9. How often the respondents (n = 34) visited the sea or coast in Wales

How often do you visit the coast?

	Number of responses
A few times a year	12
Once a month	6
Once a week	6
1-3 times a week	2
Every day	5
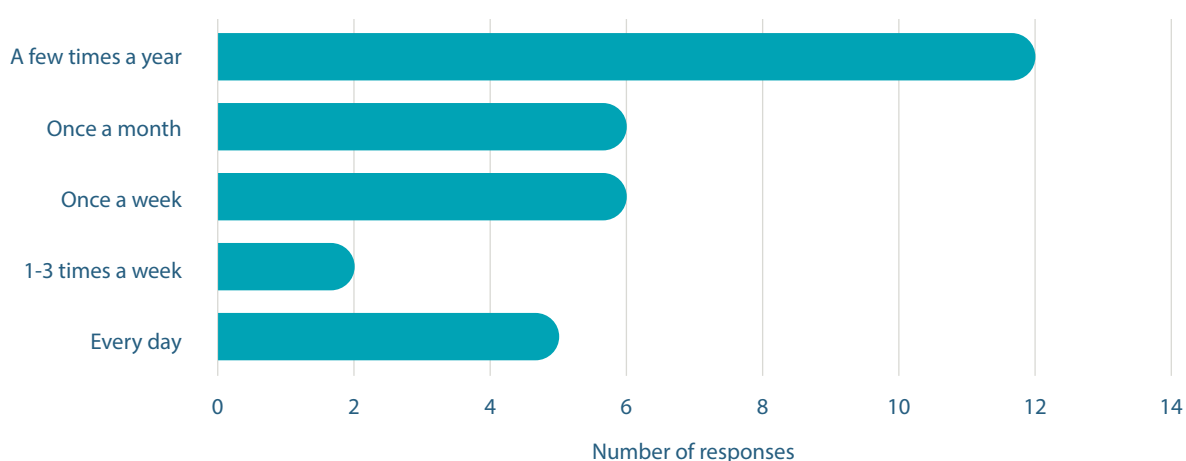
Table 5. Community member identified opportunities to engage in marine conservation in North Wales

Category	Opportunity	Count	Perception	Quote	Barriers
In water	Surfing	2	Positive	*"I have tried surfing a few times."*	Distance
	Leisure activities	1	Positive	*"yes there are opportunities to take part in leisure activities."*	No
	Swimming	4	Positive	*"I can go for a walk whenever I want, could swim if I wanted."*	Safety, access
	Sea kayaking	1	Positive	*"Like the idea of sea kayaking or boat trips but either I don't know where I can do that or it costs quite a lot."*	Cost, lack of knowledge
	Boat trips	1	Positive	*"Doing anything other than just going on to the beach is expensive. And it's not easy – have a go at SUP or fishing boats is difficult or expensive."*	
	Snorkel	1	Positive	*"Yes, but we don't take the opportunities. I like to snorkel for miles abroad but I have not snorkelled here."*	Lack of knowledge, does not engage in activity in Wales
	SUP	4	Positive	*"Happy to rent a SUP having been with you (KEW) but only through contacts I've made with people who do that already."*	Money, safety, logistics, policies, transport, time , fear, knowledge, wildlife, no introductory opportunities, no lifeguards
	Sailing	1	Positive	*"For me – not really, group in Aberdyfi who sail. It feels like it's all on me to make the effort."*	Safety, knowledge, access
	Water sports	1	Positive	*"I feel like if you have a car and access then you're able to. Coastal walking, or if you have a SUP or are interested in water sports then it's an obvious place to go - closest mass of water."*	Transport
	Diving	1	Positive	*"Some people very knowledgeable and dive a lot."*	Safety, no lifeguards

Table 5. Continued

Category	Opportunity	Count	Perception	Quote	Barriers
Land-based	Horse riding	1	Positive	*"We sometimes on a ride will do an activity where we'll say we need to use the senses – and sometimes the students will say they can "smell sea" but that's often as close as we get really. "*	Logistics, policy, permissions, safety, capacity
	Beach cleans	4	Positive and Negative	*"For myself I don't know of any opportunities – think they might do beach cleans I don't attend them."*	Lack of knowledge, crowds, weather, transport, don't attend
	Walking	6	Positive and Negative	*"Walk on the beach can take them (Girl Guides) on our own. Can walk on Barmouth and Fairborn without any qualification. Can't paddle nor swim."*	Crowd, weather
	Beach -recreation	5	Positive and Negative	*"No – I think lots of people get to the beach but not any further."*	Industrial coast (South Wales), transport, distance, time
	Rock pooling	1	Positive	*"Growing up – yes – we had those holidays in Anglesey which were amazing we'd see sea gull smashing up shells to eat. A tiny beach nobody went to – starfish it was so magical, we saw shrimps."*	Sight
	Birdwatching	1	Positive	*"We'd see sea gulls smashing up shells to eat."*	Sight
	Fossil hunting	1	Positive	*"Living in South Wales, much of our coast is industrial or estuarine making it less attractive to visit or spend time at. However, I do have fond memories of mud fights on the mud flats at Severn beach as a child and looking for fossils at Penarth with my son. Travelling to the coast from the South Wales Valleys is difficult and time consuming, especially if you are relying on public transport."*	Industrial coast (South Wales), transport, distance, time

Table 5. Continued

Category	Opportunity	Count	Perception	Quote	Barriers
Land and sea	Fishing trip	1	Positive	*"And it's not easy – have a go at SUP or fishing boats is difficult or expensive."*	Money, safety, logistics, policies, transport, time
	Wildlife tours	1	Positive	*"I've helped litter pick and tours with the trust and learn about the area. Trips to learn about the coast."*	None mentioned
	360 (after school club)	1	Positive	*"360 arranged surfing with school in Tywyn. They ran out of money – gov funded. It was well attended – they did outdoor stuff."*	Capacity/funding
	Multi-sensory activity	2	Positive	*"Now my sight is worse – love the sea but can't appreciate the sea – the tactile things are amazing but it's more limited."*	None mentioned
	beach wheelchairs	1	Positive	*"There would be opportunities if there were beach wheelchairs to get onto the beach, and better transport."*	Access, transport
Knowledge based	Surf report	1	Positive	*"Only self-created. Use the west coast Wales swell report – knowledge of the sea when I'm not in the sea."*	None mentioned
	Clubs	2	Positive and Negative	*"Yes. I think that is mainly based on being a marine biology student at Bangor and being in lots of clubs based around sea life."*	Lack of knowledge
	Lifeboat Engagement	1	Positive	*"Life boat talks for school."*	None mentioned
No opportunities mentioned	Yes	8	Positive	*"Yes" (n=7), "yea sometimes" (n=1)*	No
	No	4	Negative	*"No" (n=1), "Not too many" (n=1), "I haven't heard of any" (n=2).*	No

Barriers to engaging with the marine/coastal environment

In summary, respondents listed 22 distinct barriers to engaging with the coastal environment or marine conservation, providing multiple examples for some barriers as well as several opportunities to overcome these barriers (Table 6). Of these barriers, six were mentioned on more than five occasions (knowledge, transport/travel, logistics, climate, psychological barriers and physical ability) with the remaining 16 (appendix 5) being mentioned between on four or less occasions (communications, money, safety, social circles, access, crowds/tourists, age, agency, beginner opportunities, access to seafood, industry, litter, membership to clubs, sewage, WiFi and time).

Table 6. Summary of the top 6 barriers and opportunities to overcome them identified during KII's and surveys with local community members in North Wales

Barrier	Context	Quote	Proposed Barrier Removal Strategies
Knowledge (n=39)	Referring to a feeling of a lack of education, awareness of marine life, or awareness of opportunities to engage in marine conservation or with the coastal environment.	*"Lack of knowledge…"* *"The unknown element of the sea"* *"If you're surrounded by people who don't go to the sea or don't go on holiday then you don't learn."* *"For marine conservation projects I am ignorant on where to start."* *"My knowledge too, my lack of knowledge, It feels like it's a place for experts."*	Develop more content aimed at non-experts. Develop more advertisements of opportunities to engage. Share advertisements across diverse media.
Transport & travel (n=16)	Issues such as travel times, travel distance and reliance on public transport were mentioned. Public transport was described as infrequent, unreliable, with buses or trains often not going to the desired location . Even those who drove their own cars, described the distance as a barrier and payment for parking as an issue.	*"I don't drive. Transport – time, tide…"* *"Transport – is there even a bus to Fairborne?"* *"…Mum doesn't drive. Single buses are better to access places. Transport meant it wasn't easier to get places… Transport, [makes it an] effort to go."* *"…the main barrier I face would be transport, or lack of time…"* *"Transport is a big one. you can get somewhere but you might not get back"* *"Don't drive – transport is difficult – Mind [the charity] organise transport for us. But on your own it's quite difficult."* *"Pay to park is off putting. Can't just enjoy somewhere without spending money."*	Provide a minibus/transport for interested parties to reach hosted events. Host events at locations easily accessible by local public transport. Provide free transport for people without any.
Logistics (n=8)	Referring to factors such as cold weather and low visibility.	*"If there was an organisation to take charge and do that (Health and safety) for us – the schools would sign up and say thank God!"* *"[it takes]…time and logistics and costs and [we] need to help people get there."*	Develop health and safety documents for participants. Provide support and pair local groups with those that provide services, e.g. outdoor groups who are qualified to lead outdoor activities.
Climate (n=8)	Referring to factors such as cold weather and low visibility.	*"Predominantly the low water temperature and low visibility when snorkelling is a barrier for me for going in the sea."* *"Time and weather conditions. Not a confident swimmer." "Sea too cold."* *"…poor weather"*	Host events during summer and autumn months when the water is warmer and calmer.

Table 6. Continued

Barrier	Context	Quote	Proposed Barrier Removal Strategies
Psychological barriers (n=7)	Referencing fears relating to entering the water, interactions with wildlife or discomforts related to spending time by the coast (e.g. sandy feet).	*"…sandy feet and afraid of fish…"* *"Thought of marine creatures touching me is horrible."* *"Fear of jellyfish"*	Provide support for people with fear e.g. tailored or guided sessions for overcoming fear of the marine environment
Ability (n=6) Physical ability (n=4), Sight (n=2)	Referring to physical abilities on a personal level and the interconnection between personal ability and interacting with the sea and coast.	*"My sight is barrier, so my disability."* *"Don't swim in the sea and don't feel like I can swim – would love to be able to but I can't."* *"…in short my ability to get on the beach, walking onto the beach is a barrier"*	Host multisensory events. Produce multisensory resources

Engaging with Project SIARC

Of the 34 respondents 80% (n = 27) had not heard of Project SIARC nor ASP:W. Only two respondents (both existing volunteers of the project) knew of the resources Project SIARC offered (ID Guides, e-book etc.), although all resources were received positively by interviewees (n = 34). In particular the Instant Wild citizen science platform stood out. For many using the platform was the first time that they had seen footage of marine life in Wales and respondents were very excited to see the footage:

> *You can't get the visuals (of marine life) from the sea, you look at it and you might only see your reflection. You can't see past yourself."*

During discussions focused on Project SIARC activities, several opportunities were posed during interviews as ways that Project SIARC can improve on current relationships and opportunities available to key audiences. These opportunities were initially categorized by 8 themes (Figure 10) and then sub-categorised by type or opportunity (Figure 11).

Figure 10. Top opportunities by overarching themes for Project SIARC to engage with community members, suggested by community members during KIIs and surveys

Figure 11. Top opportunities by type for Project SIARC to engage with community members, suggested by community members during KIIs and surveys

Synthesis

Current behaviours, opportunities, and barriers to involvement in marine conservation activities based on gathering community-based information

It was clear from respondents that many had an affinity of some kind with the sea. All respondents voiced at least one positive remark about their experience with the sea, but many respondents had a mix of positive and negative remarks e.g. "*The sea has claimed lives, but it can also save them*" showing the complex relationship that many people have with the sea.

Additionally, a range of different activities were listed by respondents as ways that they are currently interacting with the coast. Activities ranged from 'on-land' opportunities such as walking on the beach or litter picks to in-water activities such as swimming or snorkelling. A few respondents also mentioned knowledge-based activities such as reading books about marine conservation or checking the surf swell as a means of knowing what the sea was like without physically being in the water. Two respondents also mentioned the use of other senses like touch and smell. For example, a member of a Riding for the Disabled Association (RDA) horse riding group highlighted that while the group cannot easily access the beach due to access restrictions, they engage in sensory activities. Riders close their eyes and concentrate on smell and many respondents say they can smell the sea and coast during these activities. During discussion of opportunities many respondents also listed barriers or mentioned limitations in relation to what activities they do or don't engage in, highlighting the interwoven complexity of these themes.

Respondents were very aware of their own experienced limitations. When asked "*what do you know about Welsh sea life?*", seven respondents spoke of eight distinct barriers (From the categories: ability, travel and knowledge). Five respondents listed knowledge as a barrier and were aware of their lack of understanding about Welsh marine life.

While many respondents (79%) felt that there are no opportunities for them to engage in marine conservation, seven of these respondents listed knowledge of, or active participation in litter picks.

Not only were discussions of opportunities, perceptions of the sea and barriers interwoven, but barriers listed were often co-dependent and interlinked. For example, mentions of financial barriers were often linked to statements regarding accessibility of activities which were within the ability of the respondent. One respondent said that she felt there were no opportunities for beginners to engage with the sea and marine conservation. She stated that this interview process was the first time she had even thought about her experience of the sea and that it was a positive thing to be speaking to community members.

Due to limited sample size and geographical spread, count data is a limiting factor (see appendix 5). A number of barriers were only listed on singular occasions (e.g. WiFi, time or agency). However, Project SIARCs teams personal experiences and reflections from previous Project SIARC activities highlight that these barriers influence ways of working with many local communities. For example, during the delivery of (and post) project activities the availability of WiFi must be accounted for when engaging with communities in remote settings. Similarly time (i.e. how much time communities have to engage) has been actively observed as a possible limiting factor that influences the demographics of attendees to wider project events (Project SIARC staff pers. Obvs.).

While the barrier 'agency' was listed by only one respondent, it is the opinion of the PI that this is a feeling shared by many people living in North Wales, particularly within farming communities. Ongoing and past conflict between different relevant parties including land-owners, farmers, fishers, and governing bodies underpins and influences our available approaches to current relationships and communications due to the need to work with consideration of such sensitivities. Conflict in conservation can create issues – conflicts are often 'wicked problems', *lacking clear solutions due to divergent values of stakeholders, and being embedded within wickedly complex environments* (Mason et al. 2018) –" to the detriment of all relevant parties. One respondent, specifically wanted to remain anonymous on the basis that they felt that the information they had provided may be misused or taken out of context in some way. Thus, demonstrating the current conflict and lack of trust between relevant parties regarding conservation issues.

College students identifying marine species using the Instant Wild platform

Next steps and integrating outcomes into future activities

Through the process of gathering of community-based information Project SIARC has captured the voices and reflections of community members involved in Project SIARC Phase 1. This process has enabled an initial identification of i) local community members relationships with the coastal environment of Wales, ii) barriers faced by communities to engaging with the marine environment and in marine conservation action and iii) opportunities for Project SIARC to co-design and develop activities to begin to address barriers identified.

Project SIARC recognises that it must do more to diversify opportunities by understanding different audiences (identities) and values, and that there is a need to appeal to a wider demographic of people to better support audiences to engage with marine conservation in Wales. Taking the time to work with communities and ensuring all voices have a seat at the table is integral to this process (see Archer et al. 2022; Fronteer, 2021; Staddon, 2021; Bennett et al. 2023) and the data presented here-in is a key supporting pillar supporting Project SIARC's move to be more inclusive and to step into a supportive, nurturing, and capacity-sharing space with communities it wishes to work with.

Delivering structured learning and co-designing a strategic approach to enhance EDI practice for the future of Project SIARC

The third and final activity undertaken during Project SIARC phase 1, captured here-in, brought together Project SIARC partnership staff (n = 20), environment sector practitioners (n = 3) and community representatives (n = 4) to discuss EDI in a dedicated in-depth two-day workshop for the first time.

Overview of the workshop

Structured learning took place through a two-day workshop co-designed and delivered with Sawsan Khuri, Director of Collaborative Capacities. The aim of the workshop was to:

1. Build a sense of agency amongst project partners to enable change and actively address EDI issues.

2. Co-design of a strategy for the next three years and beyond by bringing together learning from community-based information and project partnership visions.

During the workshop we focused on the following:

1. **Learning**. We built a shared language, common values and principles of deep and respectful listening within EDI topics. We learnt how to 'deep listen' and set out some basic rules of engagement to further hone a sense of agency.

2. **Listening**. We learnt from four invited community representative speakers, whose backgrounds included fisher, teacher, educator and councillor, about their lived experiences of their marine environment and conservation.

3. **Writing**. We used our learning and listening skills to workshop and develop an EDI strategy for the next 3-5 years.

Workshop outputs

The workshop served a dual purpose, providing dedicated space for learning and enabling the project team to reflect on Project SIARC Phase 1 and to look to the future of Project SIARC. Through reflective practice team members identified what went well, areas for further improvement and high-level strategic goals for the future of the project while considering the question '*How might we co-create a better future for conservation?*' (full report here).

Following the workshop, a feedback survey was sent to all participants. Respondents were asked specific questions related to the workshop design, content and their reflections post workshop. The full results of the respondents who responded (n = 7) are summarised below.

What area of Equity, Diversity and Inclusion would you like to learn and engage more with?

Responses included: Creating inclusion in group settings, how to diversify and reach wider audiences, keeping up to date with evolving EDI learning and terms, developing deeper understandings of positionality, incorporating EDI best practice in terminology use, improving accessibility of resources, equitable hiring practices, supporting individuals with physical disabilities, overcoming socio-economic barriers for communities with limited coastal access, interpretation, and implementation of EDI values and learning into activity.

In one sentence, what would you say is your takeaway from this workshop?

- Everyone's on a learning curve.

- Keep an open mind, heart and gut (soul!).

- For me – wanting to do more with the project and how to integrate it within education.

- Equity not Equality.

- Each of us have the opportunity to improve EDI, even small steps can come together to make a community-led changed.

- We need to understand how we can remove barriers and consciously make effort to remove our biases.

- Important to make sure when explaining messages or details that they are done properly as they can be easily interpreted in a different way.

Did you acquire any new skills or knowledge as a result of being part of the workshop?

- Yes, the difference between equity and equality being just one of the EDI terminologies that I became to understand better and how and why some of these terms are used or not used.

- Learnt how to question what is considered the 'norm' and reevaluate what we are currently doing in order to become more inclusive.

- An understanding of different viewpoints on inclusion.

- Yes - new terminology and new understanding of Welsh history.

- Yes! Lots of nuggets of very useful information.

- Yes, gained a lot more knowledge around the topic - important to take the 'take off the shoes' approach for all scenarios.

What did you enjoy the most about this event?

- Open discussion - being made to feel comfortable to openly discuss. I thought that the exercise on listening was really powerful.

- Listening to like-minded people about their experiences and views on EDI.

- The total friendliness and ease of those running the event.

- The ideation process to reach a visionary future project direction.

- Meeting people and having the time to deep-dive into a topic (rather than just an hour here and there).

- That the team was brought together in person to work together to improve the project - a very positive experience, all round and wonderful to meet people in person.

- That it was interactive and that there was an element of storytelling and sharing stories from different individuals.

Sawsan Khuri, Director of Collaborative Capacities, facilitating discussions with the workshop participants

When asked whether the workshop met participants expectations all respondents answered positively with either 'matched' (n = 1) or 'exceeded' (n = 6). When promoted to expand upon this response, participants stated the following:

- It changed the way I think about EDI, being able to question myself and the way I work and also made me think about some simple steps that I can bring in to make things within the scope of my work more inclusive.

- The session opened my mind to what EDI meant and allowed me to question my everyday habits.

- Interesting to meet different organisations not linked to education and learn how they conduct workshops.

- Particularly useful the second day workshop with the hands-on group exercise. Ideal number per group and nice simple format. I wish there was more time to spend on the glossary items for stickiness (I forgot them already). The context on "Welsh" context was an interesting discussion point but came across a bit polarising. It is rather a topic for Welsh identity building and less of EDI as Wales has been given the equitable share to develop the language and I don't think any Welsh person would feel excluded today. I have examples on the opposite side of the spectrum with professionals not progressing in their career for not being Welsh (e.g. my wife working for the NHS).

- I found the sharing of personal experiences in the second half of day 1 something completely different and very powerful. I learnt a lot.

- Fantastic event, really well facilitated. It was interesting to bring in the wider context through the Thurs afternoon sessions and subsequent discussions.

- Learnt a lot more about the terminology and applying it. Thought provoking which helped to think more about the topics and how to apply them day to day.

Synthesis – next steps and integrating workshop outcomes into this strategy

Project SIARCs goal to diversify to better serve the communities it works with and contribute to a more inclusive conservation sector of the future is supported by both the outputs of the project EDI strategic workshop and subsequent post workshop survey. Learnings from both the reflective exercises that took place during the workshop (What went well?, What could have gone better?) and the identification of future opportunities by attendees have been integrated into Project SIARCs next steps for working towards a more inclusive Project SIARC (see section Synthesising a vision for a more inclusive Project SIARC for Phase 2).

Synthesising a vision for a more inclusive Project SIARC for Phase 2

The production of the *Project SIARC 2021 – 2023 EDI Review* underpins the ongoing work and learning of Project SIARC, and the development of the *Project SIARC EDI Action Plan* which sets out our aspirations for 2023 – 2026.

In an effort to bring together the learnings from Project SIARC phase 1, Table 7 presents all actions proposed during phase 1, which Project SIARC could undertake to mitigate barriers to opportunities and improve the inclusive practice of Project SIARC. The sources of actions suggested include: i) community-based interviews, ii) outputs of the March 2023 EDI workshop and iii) Project SIARC partner organisational learnings and experiences integrated with EDI practitioner advice.

With regards to actions which were suggested during community interviews (i), table 7, column 4 presents the link between suggested actions and the barriers (see table 6 & appendix 5) that these actions would address.

As initial actions, Project SIARC Phase 2 is initiating two interventions to overcome barriers to participation faced by local communities in North Wales through working together with local communities in North Wales. Project SIARC is also working to identify and reduce two priority barriers to engagement faced by fishers with the aim of enabling Project SIARC to reach a wider demographic of fishers whilst working to remove the main barriers that groups experience.

Internally Project SIARC will continue to look to further develop team knowledge, capacity and confidence with EDI practice and improve the team structure to be more diverse and inclusive. Project SIARCs EDI Action Plan (2023 – 2026) can be found here.

Table 7. Key actions to take from community members, practitioner workshop

Knowledge	Safety	Industry
Transport and travel	Social circles	Litter
Logistics	Access	Membership to clubs
Climate	Crowds/tourists	Sewage
Psychological	Age	WiFi
Ability	Agency	Time
Communications	Beginner opportunities	
Money	Access to seafood	

Table 7. Continued

Opportunity	Action	Evidenced during: community interview (CI), EDI workshop (WS), Other e.g. practitioner or project staff suggestions (O)	Barriers that would be addressed
To integrate a Welsh context, language, history, culture and place names throughout Project SIARCs programme of work.	Welsh language courses offered for all staff working for Project SIARC	*WS, O*	
	Welsh language encouraged during Project SIARC meetings and events	*O*	
	Welsh history and culture courses completed by new Project SIARC staff during induction and for existing members of the team	*O*	
	Integrate acknowledgement of traditional owners into meeting practices. See here for more info e.g. using Welsh greetings in emails and meetings	*WS, O*	
	Share a Welsh word of the day with Project SIARC staff	*WS, O*	
	Dedicate time to practice personal learning, step out of shoes, patience etc	*WS*	
To enhance knowledge and awareness of staff working on or with Project SIARC on EDI and surrounding topics	Identify and deliver training related to EDI topics for Project SIARC team and partners e.g. addressing unconscious biases	*CI, WS*	
	Specific training on active versus deep listening for staff working directly with key people	*WS*	
	Provide and make time for regular access to mentoring and personal development opportunities in EDI	*WS*	
	Identify and apply to funding streams to expand EDI and engagement capacity in Project SIARC	*WS*	
To allow for more time for effective, wide-ranging implementation, allowing for adaptability	Find sustainable solutions to fundraising focused on community involvement	*WS*	
	Produce a baseline document for EDI best practice around language and accessibility	*WS*	

Table 7. Continued

Opportunity	Action	Evidenced during: community interview (CI), EDI workshop (WS), Other e.g. practitioner or project staff suggestions (O)	Barriers that would be addressed
To increase employment of Welsh-based staff	Include criteria in job adverts around person's location	*WS*	
	Require knowledge of Welsh language and/or a desire to learn on job adverts	*O*	
	Provide paid internships for low-income or minority backgrounds to support career development in the conservation sector	*O*	
	Provide paid apprenticeships for low-income or minority backgrounds to support career development in the conservation sector in Wales	*O*	
	Have new focused roles tied to activities e.g. education officer to support development of education activity offering	*WS*	
To share learnings of project SIARC EDI work to date with others working in the conservation sector	Develop a clear EDI vision and action plan	*WS*	
	Produce 'living' glossary of terms that continues to evolve	*WS*	
	Publish EDI strategy findings in scientific literature (To broaden the reach of community views. Use Project SIARC, to elevate the voices of the community)	*WS*	
	EDI review and action plan made available to other organisations to utilise and adapt	*O*	
	Provide evidence to local councillors for the need for outreach events, networking events, and better transport	*WS*	

Table 7. Continued

Opportunity	Action	Evidenced during: community interview (CI), EDI workshop (WS), Other e.g. practitioner or project staff suggestions (O)	Barriers that would be addressed
To maintain regular contact with local communities to build trust and implement a coordinated approach with relevant people to support engagement and networking with underrepresented groups. **To widen the demographic impact of the project and expand the Project SIARC EDI Network**	Send project intro packs to community groups, schools (and parents) and local community hubs providing information, detailing opportunities and project resources including egg case guides, ID guides etc.	*CI, WS*	■■■■■■
	Further identify how local people receive information on events and advertise events in a targeted way e.g. facebook ads, adverts in local papers, in-community posters	*CI, O*	■■■
	Provide targeted talks for community groups	*CI*	■■
	Provide public talks	*CI*	■■
	Create and provide information posters and leaflets to communities	*CI*	■■
	Host events throughout the year, with multiple events in summer to allow locals the opportunity to engage	*CI*	■■
	Coordinate events with established outdoor education groups or centres who are qualified to guide people in the outdoor space, collaborate with other projects	*CI, O*	■■■■■■
	Provide support for people with psychological barriers (I.e. fear or feelings of discomfort related to visiting the sea and coast)	*CI*	■
	Establish relationships with existing community groups	*CI*	■■
	Organise events with transport in mind, use locations accessible by public transport or organise transport where possible	*CI, WS*	■■
	Hire beach wheelchairs where necessary	*CI*	■■■
	Create content and resources for non-experts	*CI*	■■■■■
	Subsidise cost of equipment use if necessary	*CI*	■■
	Create networking opportunities for fishers to supply local consumers	*CI*	■
	Offer Introductory in-water sessions, such as snorkelling or beach visits or rock pooling	*CI*	■■■■

Table 7. Continued

Opportunity	Action	Evidenced during: community interview (CI), EDI workshop (WS), Other e.g. practitioner or project staff suggestions (O)	Barriers that would be addressed
To maintain regular contact with local communities to build trust and implement a coordinated approach with relevant people to support engagement and networking with underrepresented groups. **To widen the demographic impact of the project and expand the Project SIARC EDI Network**	Create multisensory activity/education packs	CI, WS	🟥🟩
	Host multisensory events	CI	🟥🟩
	Continue to go into schools	CI	🟥
	Deliver school base activities across Wales	WS	🟥
	Work with local universities and colleges supporting student learning	CI	🟥
	Develop long-term relationships with schools throughout areas of work	CI	🟥
	Have 'roadshow' events e.g. travelling information stall with interactive activities	CI	🟥
	Have freebies at events	CI	🟥
	Have interactives displays at events e.g. model shark	CI	🟥
	Facilitate and support health and safety procedures	CI	🟨
	Facilitate transport for community members	CI	🟥🟨
	Facilitate 'Meet a fisher' sessions with community groups	CI	🟥🟪
	Offer workshops and events aimed at adults (e.g Species Identification workshop)	CI, WS	🟥🟫🟫
	Organise networking events for community groups and Project SIARC teams	CI	🟥🟪
	Organise intergenerational activities and events	CI, WS	🟥🟫
	Offer smaller and more regular beach cleans in a range of locations across Wales	CI	🟥🟩🟪
	Provide downloadable packs, memory sticks of content to allow those without Wi-Fi to access content	CI	🟥🟦
	Maintain strong communication with fishers to highlight the value of information they can provide	CI, WS, O	⬛
	Run photo/art competitions or events	CI	🟥🟩

Table 7. Continued

Opportunity	Action	Evidenced during: community interview (CI), EDI workshop (WS), Other e.g. practitioner or project staff suggestions (O)	Barriers that would be addressed
	Collaboratively develop new resources for at home or in class (downloadable activities and resources)	CI, WS	🟥🟩
	Create badges/awards for youth	CI	🟥🟫🟫
To create a more inclusive communication strategy to reach a diverse range of people, raise the profile of project SIARC and the marine environment in Wales	Create and promote short interactive content and calls to action e.g. 5-minute beach cleans, 1 minute marine biology posts	CI, O	🟥🟦🟦🟫
	Publish more social media content, aimed at young adults and adults	CI	🟥🟦🟦🟫
	Create a regular newsletter which lists opportunities for engagement	CI, WS	🟥🟦🟦🟫🟪
	Improving accessibility of resources – subtitles of videos, alt tags for visually impaired, sign language	CI, WS	🟥🟦🟦🟫🟩
	Increase presence on other organisations websites	CI	🟥🟦🟦🟫🟪
	Write blogs	CI	🟥🟦🟦🟫
	Provide resources in a range of format e.g. visual and audio	CI	🟥🟦🟦🟫🟩
To broaden the reach of community views by using Project SIARC to elevate the voices of the community	Advocate for more bins and improved waste management, including recycling bins	CI	⬛🟪
	Use learning from this work to review and implement change in other projects we are part of	CI	
	Communicating value of success of EDI work – specific policies with the aim supported by government	WS, O	
	Support community groups with fundraising efforts	CI	🟦

Project SIARC: Equity, Diversity and Inclusion (EDI) Review I Prosiect SIARC: Adolygiad o Gydraddoldeb, Amrywiaeth a Chynhwysiant

57

Appendicies

Project SIARC: Equity, Diversity and Inclusion (EDI) Review | Prosiect SIARC: Adolygiad o Gydraddoldeb, Amrywiaeth a Chynhwysiant

58

Appendix 1. Project SIARC EDI review two stage review process

Reviewing draft one of the Project SIARC EDI Review

Following the production of 'draft one' of the Project SIARC EDI review by a sub-group of the Project SIARC partnership a two stage review process was undertaken. Stage one of this process involved staff from Project SIARC lead partners, Project SIARC partners involved in delivering community engagement 'on the ground' and staff from lead partner organisations working on EDI. After the initial review the second stage of this process involved review of this publication with local communities who had engaged with Project SIARC in phase one and all Project SIARC delivery partner organisations.

Through this multi-stage review process we aimed to ensure that:

- Working with lead and delivery partner organisations:

  - This document complimented organisational EDI learnings

  - This document authentically captured and represents values and views shared by partners during Project SIARC phase one

  - That the conclusions drawn felt realistic at the project level

  - That this document's purpose was clearly articulated and that the document was fit for purpose to support all Project SIARC partners in working to evolve the way we work across our work packages

  - That the work was ready for publication with 'beyond project' audiences

- Working with (engaged) local communities:

  - This document authentically captured and represents values and views shared by communities during Project SIARC phase one

  - That this document's purpose was clearly articulated and that the document is fit for purpose to support our work in beginning to break down barriers

  - That the communities who worked with Project SIARC were happy with the presentation of the data included, attribution within the document and for this data to be shared with 'beyond project' audiences

Appendix 2. Summary report of Project SIARC Phase 1 Literature review

As part of Project SIARC phase 1, a review of published literature was undertaken to inform understanding around how to embed Project research and work in the current context, update proposed research plans based on new information and identify opportunities for action.

Published scientific journals and grey literature that includes national reports were included and the following search databases searched: Google, Google Scholar, Web of science, Scopus, Government websites, NGOs and the following information captured: Authors, Year, Type, Title, Source, Link, Abstract, Geographic Interest, Keywords, Search terms used and Database searched.

Research Questions:

1. Diversity and Inclusion in conservation in Wales

2. Diversity and inclusion in marine conservation in Wales (Elasmobranch's in Wales)

RQ 1. Diversity and Inclusion in conservation in Wales

An initial search was undertaking using the following search terms:

- Wales and Environment and Diversity and Inclusion

- Wales and Environment and D&I

- Wales and Environment and Marginalised Groups

- Wales and Environment and Marginalised Communities

- Wales and Environment and Equality, Diversity and Inclusion

- Wales and Environment and EDI

- Wales and Conservation and Diversity and Inclusion

- Wales and Conservation and D&I

- Wales and Conservation and Marginalised Groups

- Wales and Conservation and Marginalised Communities

- Wales and Conservation and Equality, Diversity and Inclusion

- Wales and Conservation and EDI

The search was then refined to include focus areas 'Pen Llŷn a'r Sarnau' SAC and 'Carmarthen Bay and Estuaries' SAC using the following search terms:

- Wales and Environment and Diversity and Inclusion and Pen Llŷn a'r Sarnau

- Wales and Environment and D&I and Pen Llŷn a'r Sarnau

- Wales and Environment and Marginalised Groups and Pen Llŷn a'r Sarnau

- Wales and Environment and Marginalised Communities and Pen Llŷn a'r Sarnau

- Wales and Environment and Equality, Diversity and Inclusion and Pen Llŷn a'r Sarnau

- Wales and Environment and EDI and Pen Llŷn a'r Sarnau

- Wales and Conservation and Diversity and Inclusion and Pen Llŷn a'r Sarnau

- Wales and Conservation and D&I and Pen Llŷn a'r Sarnau

- Wales and Conservation and Marginalised Groups and Pen Llŷn a'r Sarnau

- Wales and Conservation and Marginalised Communities and Pen Llŷn a'r Sarnau

- Wales and Conservation and Equality, Diversity and Inclusion and Pen Llŷn a'r Sarnau

- Wales and Conservation and EDI and Pen Llŷn a'r Sarnau

- Wales and Environment and Diversity and Inclusion and Carmarthen Bay and Estuaries

- Wales and Environment and D&I and and Carmarthen Bay and Estuaries

- Wales and Environment and Marginalised Groups and and Carmarthen Bay and Estuaries

- Wales and Environment and Marginalised Communities and and Carmarthen Bay and Estuaries

- Wales and Environment and Equality, Diversity and Inclusion and and Carmarthen Bay and Estuaries

- Wales and Environment and EDI and Carmarthen Bay and Estuaries

- Wales and Conservation and Diversity and Inclusion and Carmarthen Bay and Estuaries

- Wales and Conservation and D&I and Carmarthen Bay and Estuaries

- Wales and Conservation and Marginalised Groups and Carmarthen Bay and Estuaries

- Wales and Conservation and Marginalised Communities and Carmarthen Bay and Estuaries

- Wales and Conservation and Equality, Diversity and Inclusion and Carmarthen Bay and Estuaries

- Wales and Conservation and EDI and Carmarthen Bay and Estuaries

RQ 2. Diversity and inclusion in marine conservation in Wales (Elasmobranchs in Wales)

An initial search was undertaking using the following search terms:

- Wales and Environment and Fishers

- Wales and Environment and Coast

- Wales and Environment and Elasmobranchs

- Wales and Environment and skates

- Wales and Environment and sharks

- Wales and Environment and rays

- Wales and Environment and marine

- Wales and Environment and science

- Wales and Environment and research

- Wales and Conservation and Fishers

- Wales and Conservation and Coast

- Wales and Conservation and Elasmobranchs

- Wales and Conservation and skates

- Wales and Conservation and sharks

- Wales and Conservation and rays

- Wales and Conservation and marine

- Wales and Conservation and science

- Wales and Conservation and research

The search was then refined to include focus areas 'Pen Llŷn a'r Sarnau' SAC and 'Carmarthen Bay and Estuaries' SAC using the following search terms:

- Wales and Environment and Fishers and Pen Llŷn a'r Sarnau

- Wales and Environment and Coast and Pen Llŷn a'r Sarnau

- Wales and Environment and Elasmobranchs and Pen Llŷn a'r Sarnau

- Wales and Environment and skates and Pen Llŷn a'r Sarnau

- Wales and Environment and sharks and Pen Llŷn a'r Sarnau

- Wales and Environment and rays and Pen Llŷn a'r Sarnau

- Wales and Environment and marine and Pen Llŷn a'r Sarnau

- Wales and Environment and science and Pen Llŷn a'r Sarnau

- Wales and Environment and research and Pen Llŷn a'r Sarnau

- Wales and Conservation and Fishers and Pen Llŷn a'r Sarnau

- Wales and Conservation and Coast and Pen Llŷn a'r Sarnau

- Wales and Conservation and Elasmobranchs and Pen Llŷn a'r Sarnau

- Wales and Conservation and skates and Pen Llŷn a'r Sarnau

- Wales and Conservation and sharks and Pen Llŷn a'r Sarnau

- Wales and Conservation and rays and Pen Llŷn a'r Sarnau

- Wales and Conservation and marine and Pen Llŷn a'r Sarnau

- Wales and Conservation and science and Pen Llŷn a'r Sarnau

- Wales and Conservation and research and Pen Llŷn a'r Sarnau

- Wales and Environment and Fishers and Carmarthen Bay and Estuaries

- Wales and Environment and Coast and Carmarthen Bay and Estuaries

- Wales and Environment and Elasmobranchs and Carmarthen Bay and Estuaries

- Wales and Environment and skates and Carmarthen Bay and Estuaries

- Wales and Environment and sharks and Carmarthen Bay and Estuaries

- Wales and Environment and rays and Carmarthen Bay and Estuaries

- Wales and Environment and marine and Carmarthen Bay and Estuaries

- Wales and Environment and science and Carmarthen Bay and Estuaries

- Wales and Environment and research and Carmarthen Bay and Estuaries

- Wales and Conservation and Fishers and Carmarthen Bay and Estuaries

- Wales and Conservation and Coast and Carmarthen Bay and Estuaries

- Wales and Conservation and Elasmobranchs and Carmarthen Bay and Estuaries

- Wales and Conservation and skates and Carmarthen Bay and Estuaries

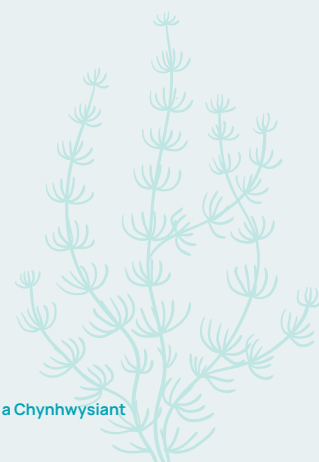- Wales and Conservation and sharks and Carmarthen Bay and Estuaries

- Wales and Conservation and rays and Carmarthen Bay and Estuaries

- Wales and Conservation and marine and Carmarthen Bay and Estuaries

- Wales and Conservation and science and Carmarthen Bay and Estuaries

- Wales and Conservation and research and Carmarthen Bay and Estuaries

Summary of resources identified through the literature review process:

Amgueddfa Cymru - National Museum Wales (2018). *Amgueddfa Cymru – National Museum Wales Equality & Diversity Strategy 2018-2021*. Available at: https://museum.wales/media/46404/Equality-Strategy.en.pdf

Amgueddfa Cymru – National Museum Wales (2021). *Amgueddfa Cymru – National Museum Wales Strategic Equality Plan 2021-2022*. https://museum.wales/media/51642/Amgueddfa-Cymru-SEP-2021-2022-English-updated.pdf

Architectural Heritage Fund. *Our Commitments to equality, diversity and inclusion (EDI)*. Available at: https://ahfund.org.uk/impact/commitments-edi/

Barker, J., Davies, J., Wray, B., Sharp, R., Gollock, M., Evans, J., O'Connor, J., Evans, S., Gordon, C., Moore, A., Nelson, M., Dulvy, N.K., Hiddink, J., Fish, J., Jiménez Alvarado, D., Brittain, R., Meyers, E., Goralczyk, M., Bull, J., Jones, N., Sims, W. & Clark, M. (2020). *Wales Angelshark Action Plan*. Zoological Society of London, UK. 42 pp. Available at: https://angelsharknetwork.com/wp-content/uploads/sites/16/2020/08/Wales-Angelshark-Action-Plan-2020.pdf

BBC News (2020). *Biodiversity: Is Wales an angel shark 'hotspot'?*. Available at: https://www.bbc.co.uk/news/uk-wales-55193335

Berry, P. and Brown, I. (2021). National environment and assets. *In The third UK climate change risk assessment technical report. Prepared for the Climate Change Committee*. Available at: https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Chapter-3-FINAL.pdf

Bournemouth University. *Staff profiles: Dr Georgia Jones*. Available at: https://staffprofiles.bournemouth.ac.uk/display/gcjones

Bumblebee Conservation Trust (2021). *EDI Action Plan 2021 – 2022*. Available at: https://www.bumblebeeconservation.org/wp-content/uploads/2021/10/Appendix-A-EDI-Action-Plan-FY21_22.pdf

Cambrian News (2020). *Project to protect endangered Angelsharks off Welsh coast*. Available at: https://www.cambrian-news.co.uk/news/project-to-protect-endangered-angelsharks-off-welsh-coast-109377

Catney, G. (2016). *Exploring a decade of small area ethnic (de-) segregation in England and Wales*. Urban Studies, 53(8), pp.1691-1709. Available at: https://www.jstor.org/stable/26151142

Chester University. *Research group profile: Conservation Biology*. Available at: https://www1.chester.ac.uk/biological-sciences/research/research-groups/conservation-biology

CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Available at: https://cieem.net/wp-content/uploads/2019/02/Combined-EcIA-guidelines-2018-compressed.pdf

Cyngor Gwynedd Council. Living Coasts – Living Seas (2005). *Funded project*. Info available at: https://gov.wales/docs/wefo/publications/150407wefo-all-cy.pdf

Davies, J., (2019). *Save our Seas : Recording what's found below the surface of Welsh waters*. Available at: https://saveourseas.com/update/recording-whats-found-below-the-surface-of-welsh-waters/

Department for Environment, Food & Rural Affairs (2013). *Dangers to marine species and measures to protect them*. Available at: https://www.gov.uk/guidance/dangers-to-marine-species-and-measures-to-protect-them

Department for Environment, Food & Rural Affairs (2015). *Marine Strategy Part Three: UK programme of measures*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/486623/marine-strategy-part3-programme-of-measures.pdf

Department for Environment, Food & Rural Affairs (2021). *Marine Strategy Part Three: UK Programme of Measures*. Available at: https://consult.defra.gov.uk/uk-marine-strategy-programme-of-measures-3/uk-marine-strategy-part-3/supporting_documents/UKMS3%20Consultation%20Document.pdf

EDGE (2020). *Edge of existence: edge lists*. Available at: https://www.edgeofexistence.org/edge-lists/

Equality and Human Rights Commission (2009). *Equality issues in Wales: A research review*. Available at: https://www.equalityhumanrights.com/sites/default/files/research-report-11-equality-issues-in-wales-research-review.pdf

Ethnic Minorities & youth support team Wales. Available at https://www.eyst.org.uk/bame-map.php#wales

European Commission (2016). *Memorandum of Understanding on the Conservation of Migratory Sharks*. Available at: https://www.cms.int/sharks/sites/default/files/document/CMS_Sharks_MOS2_Nat_Report_EU.pdf

Flora E. A. Kent, Mark J. Gray, Kim S. Last & William G. Sanderson (2016). *Horse mussel reef ecosystem services: evidence for a whelk nursery habitat supporting a shellfishery*. International Journal of Biodiversity Science, Ecosystem Services & Management, 12:3, 172-180. Available at: https://www.tandfonline.com/doi/full/10.1080/21513732.2016.1188330

Forman, A., 2017. *Energy justice at the end of the wire: Enacting community energy and equity in Wales*. Energy Policy, 107, pp.649-657. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0301421517302902

Future Generations Commissioner for Wales (2015). *Well-being of Future Generations (Wales) Act 2015*. Available at: https://www.futuregenerations.wales/about-us/future-generations-act/

Gallichan., J. (2017). *National Museum of Wales: Sizing up Sawfish*. Available at: https://museum.wales/blog/1731/Sizing-up-Sawfish/

Hayward., W. (2021). *Wales online: 29 inspiring projects to tackle the damage done to Wales' environment given £7m in funding*. Available at: https://www.walesonline.co.uk/news/politics/29-inspiring-projects-tackle-damage-21833636

International Council for the Exploration of the Sea (2017). *Report of the Working Group on Elasmobranchs*. Available at: https://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2017/WGEF/01%20WGEF-Report%20of%20the%20Working%20Group%20on%20Elasmobranch%20Fishes.pdf

Jobstvogt, N., Watson, V. and Kenter, J.O. (2014). *Looking below the surface: The cultural ecosystem service values of UK marine protected areas (MPAs)*. Ecosystem Services, 10, pp.97-110. Available at: https://www.sciencedirect.com/science/article/pii/S2212041614001089

Ludvig, A., Wilding, M., Thorogood, A. and Weiss, G. (2018). *Social innovation in the Welsh Woodlands: Community based forestry as collective third-sector engagement*. Forest Policy and Economics, 95, pp.18-25. Available at: https://www.sciencedirect.com/science/article/abs/pii/S1389934118301138

MacBride-Stewart, S. and Headington, J.J. (2021). *The Potential Health and Well-being Benefits of the Brecon Beacons National Park for a Community on its Periphery*. Available at: https://www.beacons-npa.gov.uk/wp-content/uploads/BBNPA-Exec-Summary-04-21.pdf

MacBride-Stewart, S. and Parken, A. (2021). *Inequality in a Future Wales: Areas for action in work, climate, and demographic change*. Available at: https://www.futuregenerations.wales/wp-content/uploads/2021/11/FGCW_Equalities-Report_proof_08.pdf

Monkman, G., Cambie, G., Hyder, K., Armstrong, M., Roberts, A. and Kaiser, M.J. (2015). *Socioeconomic and spatial review of recreational sea angling in Wales*. Fisheries and Conservation Report, (52), p.176. Available at: http://sustainable-fisheries-wales.bangor.ac.uk/documents/52.pdf

Monkman, G., Cambie, G., Hyder, K., Armstrong, M., Roberts, A. and Kaiser, M.J. (2015). *Socioeconomic and spatial review of recreational sea angling in Wales*. Fisheries and Conservation Report, (52), p.176. Available at: http://sustainable-fisheries-wales.bangor.ac.uk/documents/52.pdf

Moore, A.B.M., McCarthy, I.D., Carvalho, G.R. and Peirce, R. (2012). *Species, sex, size and male maturity composition of previously unreported elasmobranch landings in Kuwait, Qatar and Abu Dhabi Emirate*. Journal of Fish Biology, 80(5), pp.1619-1642. Available at: http://www.seaturtle.org/PDF/MooreABM_2012_JFishBiol.pdf

Moore, G.F., Littlecott, H.J., Evans, R., Murphy, S., Hewitt, G. and Fletcher, A. (2017). *School composition, school culture and socioeconomic inequalities in young people's health: Multi-level analysis of the Health Behaviour in School-aged Children (HBSC) survey in Wales*. British Educational Research Journal, 43(2), pp.310-329. Available at: https://bera-journals.onlinelibrary.wiley.com/doi/full/10.1002/berj.3265

National Union of Students, The Equality Trust and the Institute of Environmental Management and Assessment (2018). *Race, inclusivity and environmental sustainability : A scoping study*. Available at: https://uploads-ssl.webflow.

Natural Resources Wales (2016). *State of Natural Resources Report 2016*. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/the-state-of-natural-resources-report-assessment-of-the-sustainable-management-of-natural-resources/?lang=en

Natural Resources Wales (2020). *State of Natural Resources Report 2020*. Available at: https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-report-sonarr-for-wales-2020/?lang=en

Natural Resources Wales (2021). Equality, diversity and inclusion annual report 2020 – 2021. Available at: https://naturalresources.wales/about-us/equality-diversity-and-inclusion-annual-report-2020-2021/?lang=en

Natural Resources Wales (2021). *Wildlife above and below our waves*. Available at: https://naturalresources.wales/days-out/things-to-do/seaside-days-out/wildlife-above-and-below-our-waves/?lang=en

Natural Resources Wales. South West Wales Area Statement. *Reducing health inequalities*. Available at: https://naturalresources.wales/about-us/what-we-do/strategies-and-plans/area-statements/south-west-wales-area-statement/reducing-health-inequalities/?lang=en

Navarro, F.A., Woods, M. and Cejudo, E. (2016). *The LEADER initiative has been a victim of its own success. The decline of the bottom-up approach in rural development programmes. The cases of Wales and Andalusia*. Sociologia Ruralis, 56(2), pp.270-288. Available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/soru.12079

North Wales Wildlife Trust (2017). *Report of the trustees*. Available at: https://register-of-charities.charitycommission.gov.uk/charity-search?p_p_id=uk_gov_ccew_onereg_charitydetails_web_portlet_CharityDetailsPortlet&p_p_lifecycle=2&p_p_state=maximized&p_p_mode=view&p_p_resource_id=%2Faccounts-resource&p_p_cacheability=cacheLevelPage&_uk_gov_ccew_onereg_charitydetails_web_portlet_CharityDetailsPortlet_objectiveId=A8720292&_uk_gov_ccew_onereg_charitydetails_web_portlet_CharityDetailsPortlet_priv_r_p_mvcRenderCommandName=%2Ffull-print&_uk_gov_ccew_onereg_charitydetails_web_portlet_CharityDetailsPortlet_priv_r_p_organisationNumber=230772

North Wales Wildlife Trust. *Species: Fish, sharks, skates and rays*. Available at: https://www.northwaleswildlifetrust.org.uk/wildlife-explorer/marine/fish-including-sharks-skates-and-rays

O'Connor, K. (2016). *Imagining and Consuming the Coast: Anthropology, Archaeology,'Heritage'and 'Conservation'on the Gower in South Wales*. In Imagining Landscapes (pp. 121-142). Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781315587899-7/imagining-consuming-coast-kaori-connor

Ocean Conservation Trust. *Project: Our Historic Research*. Available at: https://oceanconservationtrust.org/project/our-historic-research/

Pembrokeshire Coast National Park Operational Review Committee. *Pembrokeshire Coast National Park (2021). Performance report for the period ending 31st March 2021*. Available at: https://www.pembrokeshirecoast.wales/wp-content/uploads/2021/06/06_21-Performance-Report-June-21.pdf

Poortinga, W., Whitmarsh, L. and Suffolk, C. (2013). *The introduction of a single-use carrier bag charge in Wales: Attitude change and behavioural spillover effects*. Journal of Environmental Psychology, 36, pp.240-247. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0272494413000686

Public Services Board. Carmarthenshire (2018). *Carmarthenshire Well-being Plan: The Carmarthenshire we want – 2018 – 2023*. Available at: https://www.thecarmarthenshirewewant.wales/media/8331/carmarthenshire-well-being-plan-final-may-2018.pdf

Robins, L., Burt, T.P., Bracken, L.J., Boardman, J. and Thompson, D.B.A. (2017). *Making water policy work in the United Kingdom: A case study of practical approaches to strengthening complex, multi-tiered systems of water governance*. Environmental Science & Policy, 71, pp.41-55. Available at: https://www.sciencedirect.com/science/article/abs/pii/S1462901116304233

Roy, H.E., Pocock, M.J., Preston, C.D., Roy, D.B., Savage, J., Tweddle, J.C. and Robinson, L.D. (2012). *Understanding citizen science and environmental monitoring: final report on behalf of UK Environmental Observation Framework*. Available at: https://www.ceh.ac.uk/sites/default/files/citizensciencereview.pdf

Save our seas. *Contributor profile: Sarah Fowler*. Available at: https://saveourseasmagazine.com/contributor/sarah-fowler/

Shark Trust. *Angel Sharks*. Available at: https://www.sharktrust.org/pages/faqs/category/angel-sharks

Shark Trust. The Great Eggcase Hunt. Available at: eggcase.org

Sharks4Kids (2020). *Meet Marine Biologist and Videographer Jake Davies*. Available at: https://www.sharks4kids.com/post/meet-marine-biologist-and-videographer-jake-davies

Shergold, I. and Parkhurst, G. (2012). *Transport-related social exclusion amongst older people in rural Southwest England and Wales*. Journal of rural studies, 28(4), pp.412-421. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0743016712000113

Showunmi, V., and Price, J. Wales Centre for Public Policy (2021). *Improving Race Equality in Leadership and Representation*. Available at : https://www.wcpp.org.uk/wp-content/uploads/2021/03/Improving-Race-Equality-in-Leadership-and-Representation.pdf

Smith, N.S., Côté, I.M., Martinez-Estevez, L., Hind-Ozan, E.J., Quiros, A.L., Johnson, N., Green, S.J., Cornick, L., Shiffman, D., Malpica-Cruz, L. and Gleason Besch, A. (2017). *Diversity and inclusion in conservation: a proposal for a marine diversity network*. Frontiers in Marine Science, 4, p.234. Available at: https://www.frontiersin.org/articles/10.3389/fmars.2017.00234/full

State of Nature Partnership (2019). *State of Nature*. Available at: https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-UK-full-report.pdf

Swansea University. *Staff profile: Dr James Bull*. Available at: https://www.swansea.ac.uk/staff/science/biosciences/bull-j-c/

Tiktak, G.P., Butcher, D., Lawrence, P.J., Norrey, J., Bradley, L., Shaw, K., Preziosi, R. and Megson, D. (2020). *Are concentrations of pollutants in sharks, rays and skates (Elasmobranchii) a cause for concern? A systematic review*. Marine Pollution Bulletin, 160, p.111701. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0025326X20308195?via%3Dihub

UK Government (2021). *Guidance: Sharks, skates and fish*. Available at: https://www.gov.uk/government/publications/protected-marine-species/fish-including-seahorses-sharks-and-skates

University of South Wales (2020). *Strategic Equality Plan*. Available at: https://www.southwales.ac.uk/about/equality-diversity-and-inclusion/

Wales 247 (2021). *The 29 new projects in Wales set to benefit from new climate fund*. Available at: https://www.wales247.co.uk/the-29-new-projects-in-wales-set-to-benefit-from-new-climate-fund

Wales Council for Voluntary Action. *Resources to support trustees with Equality, Diversity and Inclusion*. Available at: https://wcva.cymru/resources-to-support-trustees-with-equality-diversity-and-inclusion/

Wales Environment Link (2021). *Diversity workshop: Engagement and campaigning*. Available at: https://waleslink.org/wp-content/uploads/2021/07/15-April-Diversity-Workhop-on-Engagement.pdf

Wales Environment Link (2021). *Diversity workshop: Equality Impact Assessments, Monitoring and Evaluation*. Available at: https://waleslink.org/wp-content/uploads/2021/07/7-June-Diversity-Workhop-on-Equality-Impact-Assessments-Monitoring-and-Evaluation.pdf

Wales Environment Link (2021). *Diversity workshop: Diversity Action Plans*. Available at: https://waleslink.org/wp-content/uploads/2021/07/15-July-Diversity-Workhop-on-Diversity-Action-Plans.pdf

Wales Environment Link (2021). *WEL Diversity Action Plan*. Available at: https://waleslink.org/wp-content/uploads/2021/07/WEL-Diversity-Action-Plan-Final.pdf

Welsh Government (2013). *Equality Impact Assessment: M4 Corridor around Newport*. Available at: https://llyw.cymru/sites/default/files/publications/2018-06/coridor-yr-m4-o-amgylch-casnewydd-cynllun-drafft-asesiadau-ardrawol-medi-13.pdf

Welsh Government (2020). *Update to Wales' Marine Evidence Report: Welsh National Marine Plan*. Available at: https://gov.wales/sites/default/files/publications/2020-01/welsh-national-marine-plan-update-to-wales-marine-evidence-report-january-2020.pdf

Welsh Government (2021). *Workforce equality, diversity and inclusion strategy: 2021 to 2026*. Available at: https://www.gov.wales/sites/default/files/pdf-versions/2021/6/5/1623412868/workforce-equality-diversity-and-inclusion-strategy-2021-to-2026.pdf

Welsh Government. Equality planning and strategy (2020). *COVID-19 Black, Asian and Minority Ethnic Socio-economic Sub Group Report: Welsh Government response*. Available at: https://www.gov.wales/covid-19-bame-socio-economic-subgroup-report-welsh-government-response-html

Welsh Government. *Strategic Equality Plans for Wales*. Available at: https://safercommunities.wales/equalities-inclusion-cohesion/key-strategic-equality-plans-in-wales/

Welsh Government. The Equality Team (2021). *Race Equality Action Plan for Wales*. Available at: https://gov.wales/sites/default/files/consultations/2021-04/race-equality-action-plan-an-anti-racist-wales-easy-read.pdf

Wildlife and Countryside Link. *Diversity and anti-racism statement*. Available at: https://www.wcl.org.uk/diversity-and-anti-racism-statement.asp

Wildlife online. *Links database*. Available at: https://www.wildlifeonline.me.uk/links

Wildlife Trusts. *Wildlife explorer: Spurdog shark*. Available at: https://www.wildlifetrusts.org/wildlife-explorer/marine/fish-sharks-skates-and-rays/spurdog-shark

Willis, P., Maegusuku-Hewett, T., Raithby, M. and Miles, P. (2016). *Swimming upstream: The provision of inclusive care to older lesbian, gay and bisexual (LGB) adults in residential and nursing environments in Wales*. Ageing & Society, 36(2), pp.282-306. Available at: https://www.cambridge.org/core/journals/ageing-and-society/article/swimming-upstream-the-provision-of-inclusive-care-to-older-lesbian-gay-and-bisexual-lgb-adults-in-residential-and-nursing-environments-in-wales/7-4C155CC8C4D3E6A3464B892B6B8B9AE

Wilson, C.M., Tyler-Walters, H., & Wilding, C.M. (2020). *Cetorhinus maximus Basking shark*. In Tyler-Walters H. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. Available from: https://www.marlin.ac.uk/species/detail/1438

Wynne-Jones, S. (2013). *Connecting payments for ecosystem services and agri-environment regulation: An analysis of the Welsh Glastir Scheme*. Journal of Rural Studies, 31, pp.77-86. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0743016713000065

Zoological Society of London (2018). *A new era for shark conservation? Protecting 'flat sharks', rays and angels*. Available at: https://www.zsl.org/science/whats-on/a-new-era-for-shark-conservation-protecting-%E2%80%98flat-sharks%E2%80%99-rays-and-angels

Zoological Society of London. *Staff profile: Nick Dunn*. Available at: https://www.zsl.org/science/users/nick-dunn

Appendix 3. Project SIARC Phase 1 Key informant interview questions

1. How do you feel about the sea and the coast?

2. What do you know about Welsh sea life?

3. How often do you visit the coast or sea?

4. Do you feel like there are opportunities to engage with the sea and coast (marine environment)?

5. What's your understanding of marine conservation, and opportunities to engage in marine conservation?

6. Do you feel like there are enough opportunities to engage in marine conservation?

7. Do you experience any barriers to engaging with the coast?

8. Have you heard of Project SIARC or Angel Shark Project: Wales?

9. Do you know what Project SIARC offers? What do you think about those things we offer?

10. What could Project SIARC do to help people engage with the marine environment, and marine conservation?

11. Do you talk about marine conservation with your inner circles/family/friends? Where do you get your information on this and other projects that interest you?
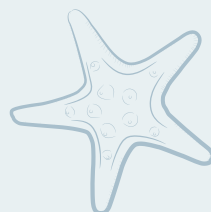
Appendix 4. Full demographic overview of KII participants

Site Name	Gender	Group	Affiliation	Lives/ locations lived	Age	Language	Inter-view type	Inter-view type	Survey after a meeting
Dolgellau	Female	Community member	Uniformed group	Central PLAS SAC (coastal)	55-64	English	KII	KII	NA
Dolgellau	Female	Education	School / Support for vulnerable adults charity / farming	Central PLAS SAC (coastal)	45-54	Welsh - bilingual	KII	KII	NA
Dolgellau	Female	Retail/ healthcare	Pharmacy	Central PLAS SAC (coastal)	55-64	English - bilingual	KII	KII	NA
Dolgellau	Male	Musician/ Retail	University	Central PLAS SAC (coastal)	18-24	Welsh - bilingual	KII	KII	NA
Dolgellau	Female	Farmer	Farming	Central PLAS SAC (coastal)	25-34	Welsh - bilingual	KII	KII	NA
Gowyr	Female	Retail	Community member	Central PLAS SAC (coastal) / South West Wales (coastal)	25-34	Welsh - bilingual	KII	KII	NA
Corris	Female	Student	University	South Wales (coastal) / Central PLAS SAC (coastal) / Central Gwynedd (inland)	18-24	Welsh - bilingual	KII	KII	NA
Cricieth	Female	Community member	Christian centre	North PLAS SAC (Coastal) / South Wales (coastal)	NA	English - bilingual	KII	KII	NA
Cricieth	Female	Volunteer	Christian centre	North PLAS SAC (Coastal) / outside of work area	25-34	English	KII	KII	NA
Dolgellau	Female	Education	College	Central PLAS SAC (coastal)	55-64	English - bilingual	KII	KII	NA
Dolgellau	Female	Council	Local Council	Central PLAS SAC (coastal)	65+	English - bilingual	KII	KII	Yes
Dolgellau	Male	Trade	Community member	Central PLAS SAC (coastal)	65+	English - bilingual	KII	KII	NA
Blaenau Ffestiniog	Male	Social Enterprise	environmental community centre	Central Gwynedd (inland)	35-44	English - bilingual	KII	KII	NA

Site Name	Gender	Group	Affiliation	Lives/ locations lived	Age	Language	Inter-view type	Inter-view type	Survey after a meeting
Dolgellau	Male	Social Worker	NA	South Wales (Coastal) / Central PLAS SAC (coastal)	55-64	Welsh - bilingual	Survey	Survey	No
Valleys	Female	Education	University	South Wales (Coastal)	25-34	English - bilingual	KII	KII	NA
Gwynedd	NA	Girl Guide	Girl Guides	Gwynedd	<18	English	Survey	Survey	Yes
Bangor	Female	Student	Bangor University	North Gwynedd	18-24	English	Survey	Survey	Yes
Dolgellau	Male	Retired	Community member	Central PLAS SAC (coastal)	55-64	Welsh - bilingual	Survey	Survey	Yes
Gwynedd	Female	Student	Uniformed group	Central PLAS SAC (coastal)	<18	English - bilingual	Survey	Survey	Yes
Rhyl	Female	Blog Writer	Freelance	North Wales – outside of work area	NA	English	KII	KII	NA
Mold	Female	Community member	Mental health Charity	North Wales – outside of work area	NA	English	KII	KII	NA
Dolgellau	Male	Student	University	South Wales/ Central PLAS SAC (coastal)	18-24	English - bilingual	Survey	Survey	Yes
Dolgellau	Male	Farmer/ Musician	Farmer	Merionnydd	25-34	Welsh - bilingual	Survey	Survey	No
Dolgellau	Male	Student/ Outdoor instructor	College / outdoor centre	Central Gwynedd	18-24	Welsh - bilingual	KII	KII	NA
Gwynedd	Male	Student	College	Central PLAS SAC (coastal)	18-24	Welsh - bilingual	Survey	Survey	Yes - P.SIARC college outreach day
Gwynedd	Male	Student	College	Central PLAS SAC (coastal)	<18	English	Survey	Survey	Yes - P.SIARC college outreach day
Gwynedd	Female	Student	College	Central PLAS SAC (coastal)	<18	Welsh - bilingual	Survey	Survey	Yes - P.SIARC college outreach day
Gwynedd	Male	Student	College	Central PLAS SAC (coastal)	<18	Welsh - bilingual	Survey	Survey	Yes - P.SIARC college outreach day

Site Name	Gender	Group	Affiliation	Lives/ locations lived	Age	Language	Inter- view type	Inter- view type	Survey after a meeting
Gwynedd	Male	Student	College	Central PLAS SAC (coastal)	<18	English	Survey	Survey	Yes - P.SIARC college outreach day
Gwynedd	Male	Student	College	Central PLAS SAC (coastal)	<18	English - bilingual	Survey	Survey	Yes - P.SIARC college outreach day
Gwynedd	Male	Student	College	Central PLAS SAC (coastal)	<18	English - bilingual	Survey	Survey	Absent - P.SIARC college outreach day
Gwynedd	Male	Student	College	Central PLAS SAC (coastal)	18-24	Welsh - bilingual	Survey	Survey	Absent - P.SIARC college outreach day
Gwynedd	Male	Student	College	Central PLAS SAC (coastal)	18-24	Welsh - bilingual	Survey	Survey	Yes
Dolgellau	Female	Community member	Community member	Central PLAS SAC (coastal)	55-64	Welsh - bilingual	KII	KII	NA

Project SIARC: Equity, Diversity and Inclusion (EDI) Review I Prosiect SIARC: Adolygiad o Gydraddoldeb, Amrywiaeth a Chynhwysiant

71

Appendix 5. Summary of 16 further barriers identified (mentioned 4 times or less) through KII's and surveys with local community members in North Wales and opportunities to overcome them

Barrier	Context	Quote	Proposed Barrier Removal Strategies
Communications (n=4)	Related to having an understanding of, or the availability of communication about, how and where opportunities for participation in, or information about, marine conservation is found.	*"You (project SIARC) should lead by example – conflict is often started from a lack of communication. So you guys going out and working with fishers is what needs to happen. You create an example of how working with locals, people who are on the ground every day can work and have positive outcomes. Far more positive than the system that we currently have. The system we have now mimics colonisation, people go in and disregard what's been going on for thousands of years."* *"…don't feel like local marine issues area very publicised I suppose."*	Improve communications at all levels; develop a newsletter to people who are interested which includes a segment on upcoming opportunities.
Money (n=4)	Referring to the availability of funds (or lack of funds) to take part in hobbies or afford trips and equipment.	*"Hobbies are a privilege. And if you spend a lot of money on the hobby it's even more of a privilege. Money is a big thing."* *"Doing anything other than just going on to the beach is expensive. And it's not easy – have a go at SUP or fishing boats is difficult or expensive."* *"Run out of money – gov funded"*	Subsidise equipment use if necessary for participation.
Safety (n=3)	Highlighting concerns of staying safe on the coastline and levels of comfort in personal understanding around how to visit and experience the coast safely.	*"Would love to free dive – but feel like safety is an issue and there's no life guards"* *"…was scared of water, scared of the sea. Scared of drowning. Hear of people drowning all the time because they don't know about currents or rips or anything. You can't go where there are no people. Because how would I know where to get in."*	Develop guided snorkel tours or free diving experiences.

Barrier	Context	Quote	Proposed Barrier Removal Strategies
Social circles (n=3)	Highlighting the influence of social circles and the benefit of access to groups with shared interests in i) enabling people to join in activities at the coast, or ii) providing support to those who need help. Respondents highlighted that a reliance on close social circles can be limiting to personal independence.	*"Barrier is not being able to get into the sea without help. I'm fortunate to have friends going into the sea and they helped me in and out. But that's only when they're free. No I don't feel like I have enough access to that. I go down and look at the beach. Sit and watch other people enjoying it. It's a lonely experience and isolating. It's a visual reminder that I can't feel the sand under my feat. If there is a big event on the beach and a beach wheelchair would enable me to get down there I would go."* *"Happy to rent a SUP … but only through contacts I've made with people who do that already."*	Create a network of local people who want to participate in marine conservation. Host networking events for groups of different ages.
Access (n=2)	Referring to challenges related to physically accessing coastal spaces such as the beach or sea I.e. infrastructure for wheelchairs.	*"Access to the beach itself – Fairborne – no ramp – wheelchairs can't get down."* *"Same with horses – hard to get onto sand - Access on Ffriog end by creating their own ramp."*	Provide evidence for local councillors to initiate access schemes for the coast
Crowds/tourists (n=2)	Referring to busy periods which coincide with nice weather and the summer season, highlighting crowds as being a deterrent to residents for visiting the coast.	*"I stay away from the beach when it is crowded."* *"I won't go to certain beaches in the summer because of the all the action on the beach. I'm not there for there that. On a busy day I'll wait for the tourists to go for dinner because then they won't be on the beach."*	Provide more events throughout the year, not just during peak seasons.
Age (n=1)	Referring to the availability (or lack of availability) of activities that cater to different ages.	*"Usually events are aimed at families. Which annoys me because things are aimed at kids."*	Provide events for different age groups.
Agency (n=1)	Referencing lack of feeling of control or opportunity to engage.	*"I think of "conservation" as being linked with authority – can't do anything without the authorities "ok'ing" it"*	Continue to speak to marginalised groups. Initiate community lead projects.
Beginner opportunities (n=1)	Referencing the availability or lack of availability of opportunities that are tailored to different skill levels.	*"Abroad you can just get in a bikini and go for a swim, so temperature has a lot to do with it. Here it feels like more of a water sports, challenging thing. Abroad you feel like you can just go for a dip in the sea."*	Provide sessions labelled as beginner or introductory sessions. Team with outdoor groups already providing these beginner sessions.

Project SIARC: Equity, Diversity and Inclusion (EDI) Review I Prosiect SIARC: Adolygiad o Gydraddoldeb, Amrywiaeth a Chynhwysiant

73

Barrier	Context	Quote	Proposed Barrier Removal Strategies
Access to seafood (n=1)	Related to the perception or feeling of there being nowhere to purchase local seafood.	*"No local fish to eat. No local produce so you don't engage in the marine life. You can't go to Fairborne and buy fish."*	Provide a network where local fishers can communicate with local consumers
Industry (n=1)	Relating to South Wales and the perception of the aesthetics or attractiveness of the coastline.	*"Living in South Wales, much of our coast is industrial or estuarine making it less attractive to visit or spend time at."*	Provide evidence to local councillors for the need for more green space
Litter (n=1)	Highlighting the amount of litter creates the perception of an unclean space.	*"Barmouth I would never go – because it's so busy – I associate it with not being a clean beach. I remember seeing condoms on the beach in Barmouth."*	Host more, smaller beach cleans and different locations. Advocate for more bins, including more recycling bins. Bins next to road works where rubbish accumulates.
Membership to clubs (n=1)	Highlighting the perception that to engage with the coast you need to join a club or that membership is necessary to gain experience.	*"I don't know for certain. I am guessing that you would need to join a society or club."*	Offer newsletters or activities without a membership needed. Include in the newsletter, current opportunities are included and clearly state 'all-welcome'.
Sewage (n=1)	Highlighting concerns related to sewage entering the sea through run off and this being off-putting.	*"Sewage leak – the water has a good rating Prestatyn but the colour puts me off."*	Advocate for better waste management
WiFi (n=1)	Highlighting a lack of capacity to learn and use online resources like instant wild when access to the internet is not readily accessible.	*"In guides - No internet in free library so hoping we can get Wi-Fi ."*	Provide downloadable packs, memory sticks of content,
Time (n=1)	Highlighting a lack of available time to engage in ongoing opportunities due to time-constrained commitments such as work.	*"I'd say work – tied down by work. But that's for everyone."*	Promote short content, 5-minute beach cleans, 1 minute marine biology posts. Create ways of integrating PS material into curriculums for schools

©JD Scuba - Jake Davies