Export fishframe data to wksdecc format

WKSDECC people

2017-05-30

WKSDECC format

Some words and a figure.

Sole in the 27.4

Sole in the 27.4 area.

France

Sampling design

A description of the sampling design. Sampling at sea and on port.

Sampling at sea

At sea sampling from a vessel list, then the voyage of the vessel, part of the hauls are sampled.

- strata 1: quarter
- PSU : vessel x day

Sampling plan by quarter/area/metier. Vessels are selected according to the area/metier strata, then some fishing operation for a trip are sampled at sea if it matches the strata. For port sampling, the trip is sampled if it matches the area/metier strata conditions.

Sampling at port

Fishframe data

France data

- COSTcore package:

```
#read the sole 27.4 data for 2016
pathsol<-"/home/moi/ifremer/analyses_stock_2017/WGNSSK/sol.27.4/data/"
load(paste0(pathsol,"CSr2016.rdata"))
load(paste0(pathsol,"CLr2016.rdata"))
load(paste0(pathsol,"CEr2016.rdata"))
#read sampling plan
planobsmer<-read.csv2("/home/moi/ifremer/data/wao/plan_OBSMER_2016.csv")
planobsvente<-read.csv2("/home/moi/ifremer/data/wao/plan_OBSVENTE_2016.csv")
```

```
#remove COSTcore dependency : cost object to dataframe
cl<-CLr@cl
ce<-CEr@ce
tr<-CSr@tr
hh<-CSr@hh
sl<-CSr@sl
hl<-CSr@hl
ca<-CSr@ca
```

Generic version: each table (cl, ce, tr, hh, sl, hl, ca) in a text file (; sep) with a header.

```
pathdatacsv<-"/home/moi/ifremer/WKSDECC/datacsv/"
cl<-read.table(paste0(pathdatacsv,"cl.csv"),sep=";",header=T)
ce<-read.table(paste0(pathdatacsv,"ce.csv"),sep=";",header=T)
tr<-read.table(paste0(pathdatacsv,"tr.csv"),sep=";",header=T)
hh<-read.table(paste0(pathdatacsv,"hh.csv"),sep=";",header=T)
sl<-read.table(paste0(pathdatacsv,"sl.csv"),sep=";",header=T)
hl<-read.table(paste0(pathdatacsv,"hl.csv"),sep=";",header=T)
ca<-read.table(paste0(pathdatacsv,"ca.csv"),sep=";",header=T)
```

This report uses the 7 tables from the fishframe format.

DEsign table

We call it DE. Two design: one for at sea sampling (OBSMER program), one for port sampling (OBSVENTE program). This table is not build using fishframe information.

```
    DE<-createdf("Design",nbrow=2)
    DE<-DE%>%mutate(designID=c(1,2),
          recType="DE",
          sampScheme=c("obsmer","obsvente"),
          sampStrata="",
          hierarchy=c("",
              ""))
```

```
    pander(DE)
```

designID	recType	sampScheme	sampStrata	hierarchy
1	DE	obsmer		
2	DE	obsvente		

Sampling Event table

We call it SE. The table use the information from the hh and tr table from fishframe sampling table (CS object), and from the population data related to effort (CE object). A sampling event is related to a trip for port sampling and for hauls for at sea sampling.

```
################################################################
#tr and hh tables are merged
```

```
hh<-hh%>%mutate(trpCode=as.character(trpCode))
hhtr<-left_join(hh,tr)%>%
    mutate(month=as.numeric(substr(date,6,7)))
```

```
## Joining, by = c("sampType", "landCtry", "vslFlgCtry", "year", "proj", "trpCode")
```

```
#build sampling event population data info using CE
nbtruc<-ce%>%group_by(harbour,month,foCatEu6)%>%summarise(nbtr=sum(trpNum),
                              nbfo=sum(foNum),
                              nbday=sum(daysAtSea))%>%ungroup()

hhtr<-left_join(hhtr,nbtruc)
```

```
## Joining, by = c("foCatEu6", "harbour", "month")
```

```
#split by at sea vs port
hhsea<-hhtr%>%filter(sampType=="S")%>%mutate()
hhport<-hhtr%>%filter(sampType=="M")
SEatsea<-createdf("Sampling Event",nbrow=nrow(hhsea))
SEport<-createdf("Sampling Event",nbrow=nrow(hhport))
#at sea
SEatsea<-SEatsea%>%mutate(sampEventID=paste(hhsea$trpCode,hhsea$staNum),
               designID=1,
               recType="SE",
               seYear=substr(hhsea$date,1,4),
               sampDate=as.character(hhsea$date),
               sampTime=as.character(hhsea$time),
               sampCtry="FRA",
               sampUnit="quarter*area*port*metier*vessel",
               sampMeth="Observer",
               seUnitTotal=as.character(hhsea$nbtr),
               seUnitSampled="1",
               selectionMethod="adhoc"
               )
SEport<-SEport%>%mutate(sampEventID=paste(hhport$trpCode,hhport$staNum),
               designID=2,
               recType="SE",
               seYear=substr(hhport$date,1,4),
               sampDate=as.character(hhport$date),
               sampTime=as.character(hhport$time),
               sampCtry="FRA",
               sampUnit="quarter*area*port*metier*vessel",
               sampMeth="Observer",
               seUnitTotal=as.character(hhport$nbtr),
               seUnitSampled="1",
               selectionMethod="adhoc"
               )
SE<-rbind(SEatsea,SEport)%>%mutate(seSampProb=as.numeric(seUnitSampled)/as.numeric(seUnitTotal))
```

```
 pander(head(SE))
```

Table 2: Table continues below

sampEventID	designID	recType	seYear	sampLoc	sampDate	sampTime
10603639 4	1	SE	2016	NA	2016-03-31	09:10
10603639 6	1	SE	2016	NA	2016-03-31	08:30
10603639 3	1	SE	2016	NA	2016-03-31	09:30
10603639 2	1	SE	2016	NA	2016-03-31	11:20
10603639 5	1	SE	2016	NA	2016-03-31	08:50
10603639 1	1	SE	2016	NA	2016-03-31	11:00

Table 3: Table continues below

strataSE	sampTempPeriod	sampCtry	sampInst	sampTeam
NA	NA	FRA	NA	NA
NA	NA	FRA	NA	NA
NA	NA	FRA	NA	NA
NA	NA	FRA	NA	NA
NA	NA	FRA	NA	NA
NA	NA	FRA	NA	NA

Table 4: Table continues below

sampUnit	sampMeth	seUnitTotal	seUnitSampled
quarter*area*port*metier*vessel	Observer	402.071673385388	1
quarter*area*port*metier*vessel	Observer	402.071673385388	1
quarter*area*port*metier*vessel	Observer	402.071673385388	1
quarter*area*port*metier*vessel	Observer	402.071673385388	1
quarter*area*port*metier*vessel	Observer	402.071673385388	1
quarter*area*port*metier*vessel	Observer	402.071673385388	1

seSampProb	selectionMethod
0.002487	adhoc
0.002487	adhoc
0.002487	adhoc
0.002487	adhoc
0.002487	adhoc
0.002487	adhoc

VEssel table

VE table. Hard to fill without external information : the number of vessels is not recorded in CE table.

```
############################################################
#Vessel table
vesseltab<-hhtr%>%select(vslId,trpCode,staNum,vslLen,vslPwr,vslSize)%>%
            distinct()%>%mutate(sampEventID=paste(trpCode,staNum))%>%
            select(-trpCode,-staNum)
```

```
VE<-createdf("Vessel",nbrow=nrow(vesseltab))
#pick value matching names of the vessel table
VE<-pickvalue(VE,vesseltab)
```

```
pander(head(VE))
```

Table 6: Table continues below

vslTblID	sampEventID	recType	vslId	strataVessel	homePort
NA	24827578 999	NA	4cc72a06	NA	NA
NA	24836503 999	NA	f1567f35	NA	NA
NA	24418139 999	NA	bb3b1f6b	NA	NA
NA	24548839 999	NA	4cc9f72b	NA	NA
NA	24583659 999	NA	4cc9f72b	NA	NA
NA	24134884 999	NA	ddd817e0	NA	NA

Table 7: Table continues below

vslFlgCtry	vslLen	vslLenCat	vslPwr	vslSize	vslSizeUnit	vslType
NA	11	NA	148	10	NA	NA
NA	23	NA	442	102	NA	NA
NA	44	NA	1850	552	NA	NA
NA	44	NA	1850	500	NA	NA
NA	44	NA	1850	500	NA	NA
NA	11	NA	236	23	NA	NA

vesselTotal	vesselSampled	vesselSampProb	selectionMethod
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA

VOyage table

VO table. Some cosmetic information are not available in the CS and CE object (departure and arrival information mainly). It's a simple version of the tr table.

```
    VOinit<-hhtr%>%mutate(voyageID=trpCode,
              sampEventID=paste(trpCode,staNum),
              vslTblID=vslId,
              recType="VO",
              arvLoc=harbour,
              voyageTotal=nbtr,
              voyageSampled=1,
              voyageSampProb=voyageSampled/voyageTotal
```

```
        )
VO<-createdf("Voyage",nbrow=nrow(VOinit))
#pick value matching names of the sl table
VO<-pickvalue(VO,VOinit)
```

```
pander(head(VO))
```

Table 9: Table continues below

voyageID	sampEventID	vslTblID	recType	strataVoyage	foNum	daysAtSea
24827578	24827578 999	4cc72a06	VO	NA	2	0.9377
24836503	24836503 999	f1567f35	VO	NA	3	1.978
24418139	24418139 999	bb3b1f6b	VO	NA	19	9.26
24548839	24548839 999	4cc9f72b	VO	NA	20	10.54
24583659	24583659 999	4cc9f72b	VO	NA	34	9.861
24134884	24134884 999	ddd817e0	VO	NA	3	0.3854

Table 10: Table continues below

depLoc	depDate	depTime	arvLoc	arvDate	arvTime	voyageTotal
NA	NA	NA	XBL	NA	NA	6
NA	NA	NA	XBL	NA	NA	100.2
NA	NA	NA	XBL	NA	NA	NA
NA	NA	NA	XBL	NA	NA	NA
NA	NA	NA	XBL	NA	NA	1.925
NA	NA	NA	XBL	NA	NA	31

voyageSampled	voyageSampProb	selectionMethod
1	0.1667	NA
1	0.009984	NA
1	NA	NA
1	NA	NA
1	0.5195	NA
1	0.03226	NA

Fishing Operation table

FO table. Very similar to the hh table.

```
FOinit<-hhtr%>%mutate(foID=staNum,
                      voyageID=trpCode,
                      foDate=date,
                      foTime=time,
                      recType="FO",
                      subRect=NA,
                      aggLev=as.character(aggLev),
                      foTotal=nbfo,
```

```
                foSampled=1,
                foSampProb=foSampled/foTotal)
FO<-createdf("Fishing Operation",nbrow=nrow(FOinit))
#pick value matching names of the sl table
FO<-pickvalue(FO,FOinit)
```

```
pander(head(FO))
```

Table 12: Table continues below

foID	voyageID	recType	staNum	strataFo	aggLev	foType	foVal
999	24827578	FO	999	NA	TRUE	NA	I
999	24836503	FO	999	NA	TRUE	NA	I
999	24418139	FO	999	NA	TRUE	NA	I
999	24548839	FO	999	NA	TRUE	NA	I
999	24583659	FO	999	NA	TRUE	NA	I
999	24134884	FO	999	NA	TRUE	NA	I

Table 13: Table continues below

catReg	sppReg	foDate	foTime	foEndDate	foEndTime	foDur	latIni
Lan	Par	2016-12-02	NA	NA	NA	6.47	NA
Lan	Par	2016-12-02	NA	NA	NA	10.78	NA
Lan	Par	2016-09-09	NA	NA	NA	23.56	NA
Lan	Par	2016-10-14	NA	NA	NA	23.37	NA
Lan	Par	2016-10-25	NA	NA	NA	21.75	NA
Lan	Par	2016-04-20	NA	NA	NA	4.395	NA

Table 14: Table continues below

lonIni	latFin	lonFin	ecoZone	area	rect	subRect	FU	foDep
NA	NA	NA	NA	27.4.c	31F1	NA	NA	NA
NA	NA	NA	NA	27.4.c	31F1	NA	NA	NA
NA	NA	NA	NA	27.4.a	51E8	NA	NA	NA
NA	NA	NA	NA	27.4.a	52F1	NA	NA	NA
NA	NA	NA	NA	27.4.a	50F0	NA	NA	NA
NA	NA	NA	NA	27.4.c	31F1	NA	NA	NA

Table 15: Table continues below

waterDep	foCatNat	foCatEu5	foCatEu6	gear	meshSize	selDev
NA	GTRFLX	GTR_DEF	GTR_DEF_90_99_0	NA	NA	NA
NA	OTBSQU	OTB_CEP	OTB_CEP_70_99_0	NA	NA	NA
NA	OTBPOK	OTB_DEF	OTB_DEF_>=120_0	NA	NA	NA

waterDep	foCatNat	foCatEu5	foCatEu6	gear	meshSize	selDev
NA	PTBGAD	PTB_DEF	PTB_DEF_>=120_0	NA	NA	NA
NA	OTBPOK	OTB_DEF	OTB_DEF_>=120_0	NA	NA	NA
NA	GTRSOX	GTR_DEF	GTR_DEF_90_99_0	NA	NA	NA

Table 16: Table continues below

meshSizeSelDev	target	domain1	domain2	foTotal	foSampled	foSampProb
NA	NA	NA	NA	29	1	0.03448
NA	NA	NA	NA	1105	1	0.000905
NA	NA	NA	NA	NA	1	NA
NA	NA	NA	NA	NA	1	NA
NA	NA	NA	NA	0	1	Inf
NA	NA	NA	NA	185	1	0.005405

selectionMethod
NA
NA
NA
NA
NA
NA

SAmple table

SA table. Very similar to the sl table.

```
    #tr and hh tables are merged
    sl<-sl%>%mutate(trpCode=as.character(trpCode))
    slhh<-left_join(sl,hh)
```

```
## Joining, by = c("sampType", "landCtry", "vslFlgCtry", "year", "proj", "trpCode", "staNum")
```

```
    SAinit<-slhh%>%mutate(sampID=paste(trpCode,staNum),
                  foID=staNum,
                  voyageID=trpCode,
                  recType="SA",
                  commSpp="SOL",
                  sppName=spp,
                  sampWt=subSampWt,
                  unitTotal=wt,
                  unitSampled=sampWt,
                  unitSampProb=unitSampled/unitTotal,
                  concurrent="yes")
    SA<-createdf("Sample",nbrow=nrow(SAinit))
```

```
#pick value matching names of the sl table
SA<-pickvalue(SA,SAinit)
```

```
pander(head(SA))
```

Table 18: Table continues below

sampID	foID	landingID	voyageID	speciesSelectionID	recType
24827578 999	999	NA	24827578	NA	SA
24827578 999	999	NA	24827578	NA	SA
24827578 999	999	NA	24827578	NA	SA
24827578 999	999	NA	24827578	NA	SA
24827578 999	999	NA	24827578	NA	SA
24134884 999	999	NA	24134884	NA	SA

Table 19: Table continues below

sampleID_Nat	commSpp	sppCode	sppName	pres	catchCat	landCat
NA	SOL	NA	Solea solea	NA	LAN	HUC
NA	SOL	NA	Solea solea	NA	LAN	HUC
NA	SOL	NA	Solea solea	NA	LAN	HUC
NA	SOL	NA	Solea solea	NA	LAN	HUC
NA	SOL	NA	Solea solea	NA	LAN	HUC
NA	SOL	NA	Solea solea	NA	LAN	HUC

Table 20: Table continues below

commCatScl	commCat	subSampCat	sex	strataSample	unitType	wt
EU	Cat UE40	40	NA	NA	NA	10007
EU	Cat UE53	53	NA	NA	NA	9912
EU	Cat UE30	30	NA	NA	NA	6700
EU	Cat UE60	6	NA	NA	NA	5094
EU	Cat UE10	10	NA	NA	NA	11775
EU	Cat UE50	50	NA	NA	NA	11500

Table 21: Table continues below

sampWt	totWtDeriv	sampWtDeriv	convFacWt	measType	lenCode	unitTotal
10007	NA	NA	NA	NA	mm	10007
9912	NA	NA	NA	NA	mm	9912
6700	NA	NA	NA	NA	mm	6700
5094	NA	NA	NA	NA	mm	5094
11775	NA	NA	NA	NA	mm	11775
11500	NA	NA	NA	NA	mm	11500

Table 22: Table continues below

unitSampled	unitSampProb	selectionMethod	concurrent	NoSubSample
10007	1	NA	yes	NA
9912	1	NA	yes	NA
6700	1	NA	yes	NA
5094	1	NA	yes	NA
11775	1	NA	yes	NA
11500	1	NA	yes	NA

hierarchy
NA
NA
NA
NA
NA
NA

Frequency Measure table

FM table: similar to the hl table.

```
    #tr and hh tables are merged
    hl<-hl%>%mutate(trpCode=as.character(trpCode))
    hlsl<-left_join(hl,sl)
```

```
## Joining, by = c("sampType", "landCtry", "vslFlgCtry", "year", "proj", "trpCode", "staNum", "spp", "ca
```

```
    FMinit<-hlsl%>%mutate(freqMesID=paste(1:nrow(hlsl)),
                  sampID=paste(trpCode,staNum),
                  foID=staNum,
                  voyageID=trpCode,
                  recType="FM",
                  commSpp="SOL",
                  sppName=spp)

    FM<-createdf("Frequency Measure",nbrow=nrow(FMinit))
    #pick value matching names of the sl table
    FM<-pickvalue(FM,FMinit)
    #add info
    FM<-FM%>%group_by(sampID)%>%mutate(fishSampled=sum(lenNum))%>%ungroup()
    #number of fish total should be computed but later (multiple regression
    #using sampWt and number of fish)
```

```
pander(data.frame(FM[1:5,]))
```

Table 24: Table continues below

freqMesID	sampID	subSampID	recType	commSpp	sppCode	sppName
1	24827578 999	NA	FM	SOL	NA	Solea solea
2	24827578 999	NA	FM	SOL	NA	Solea solea
3	24827578 999	NA	FM	SOL	NA	Solea solea
4	24827578 999	NA	FM	SOL	NA	Solea solea
5	24827578 999	NA	FM	SOL	NA	Solea solea

Table 25: Table continues below

lenCls	strataFreq	lenNum	measType	measCls	measNum	convFacLen
300	NA	4	NA	NA	NA	NA
270	NA	9	NA	NA	NA	NA
290	NA	9	NA	NA	NA	NA
310	NA	1	NA	NA	NA	NA
280	NA	17	NA	NA	NA	NA

fishTotal	fishSampled	fishSampProb
NA	161	NA
NA	161	NA
NA	161	NA
NA	161	NA
NA	161	NA

XX table

XX table: similar to the hl table.