

IOTC-2017-WPDCS13-INF03

Victoria, Seychelles 26-28 November 2017

Further feedback on the proposed changes to *FOB types* and *activity types*, as well as on FOB data reporting forms, as proposed by IOTC-2017-WPDCS13-27

IOTC Secretariat

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FOB types

Current IOTC classification

Code	Description
ANF	Anchored FAD
FAD	Drifting raft or FAD without a net, NOT located using a tracking system (radio or satellite transmission)
FDT	Drifting raft or FAD without a net, located using a tracking system (radio or satellite transmission)
NFD	Drifting raft or FAD with a net, NOT located using a tracking system (radio or satellite transmission)
NFT	Drifting raft or FAD with a net, located using a tracking system (radio or satellite transmission)
LOG	Drifting log or debris NOT located using a tracking system (radio or satellite transmission)
LGT	Drifting log or debris located using a tracking system (radio or satellite transmission)
DFR	Other drifting objects NOT located using a tracking system (radio or satellite transmission) (e.g. dead animal, etc.)
DRT	Other drifting objects located using a tracking system (radio or satellite transmission) (e.g. dead animal, etc.)

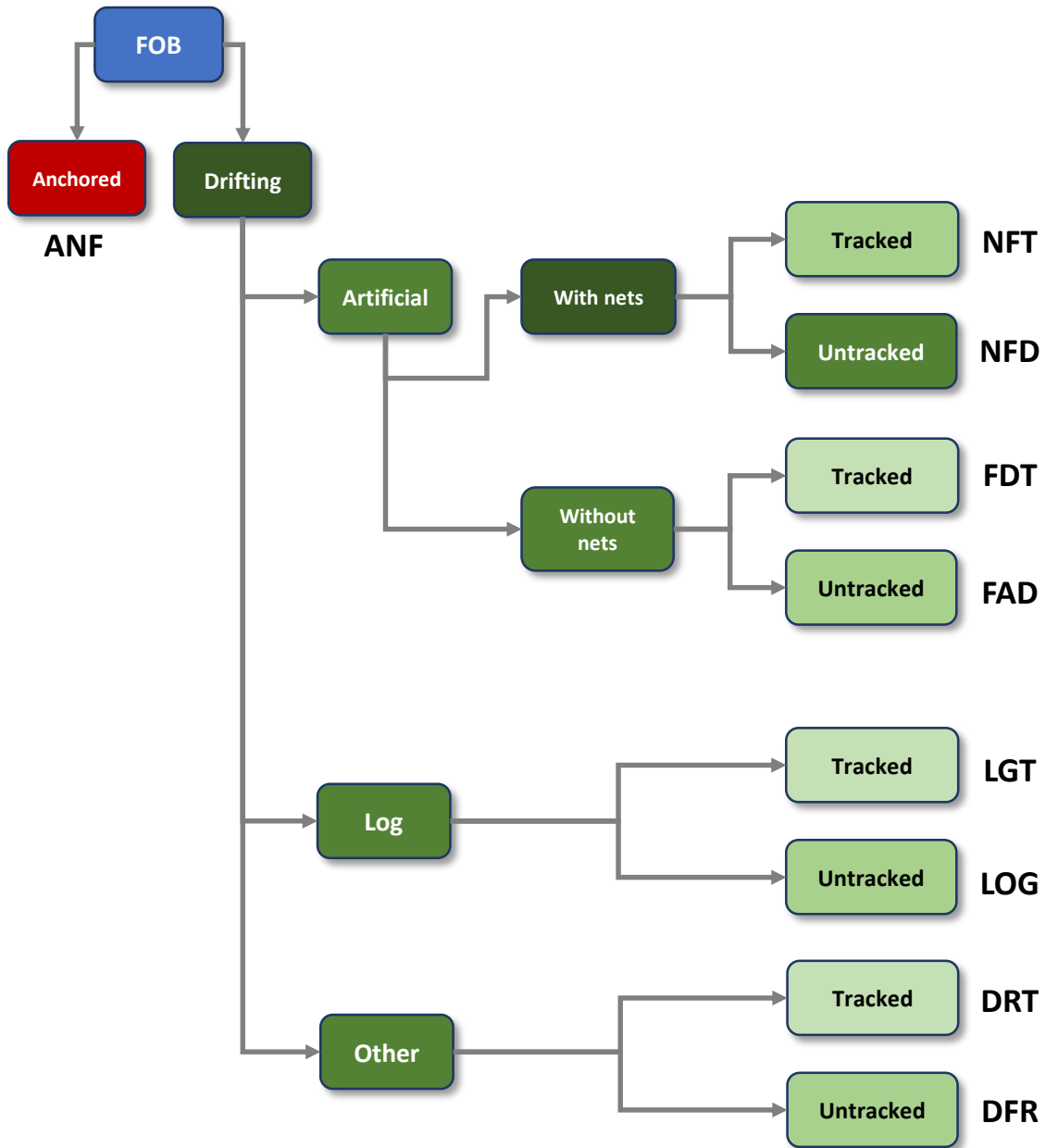
- Focuses on the presence of **nets** and **tracking systems**
- Does not provide details about **biodegradability** and **entangling**
- Does not include details about FOB (FAD) **ownership**

CECOFAD classification

Code	Description
AFAD	Anchored FAD
ALOG	Natural log of animal origin
VLOG	Natural log of plant origin
FLOG	Artificial log resulting from human fishing activity (nets, wreck, ropes, vessels that act as FADs, etc.)
HLOG	Artificial log resulting from human non-fishing activity (e.g. a washing machine, oil tank, etc.)
BIDFAD	Biodegradable (100%) non-entangling FAD
NEDFAD	Non-biodegradable or partially biodegradable and non-entangling FAD
ENDFAD	Non-biodegradable or partially biodegradable FAD with entangling parts

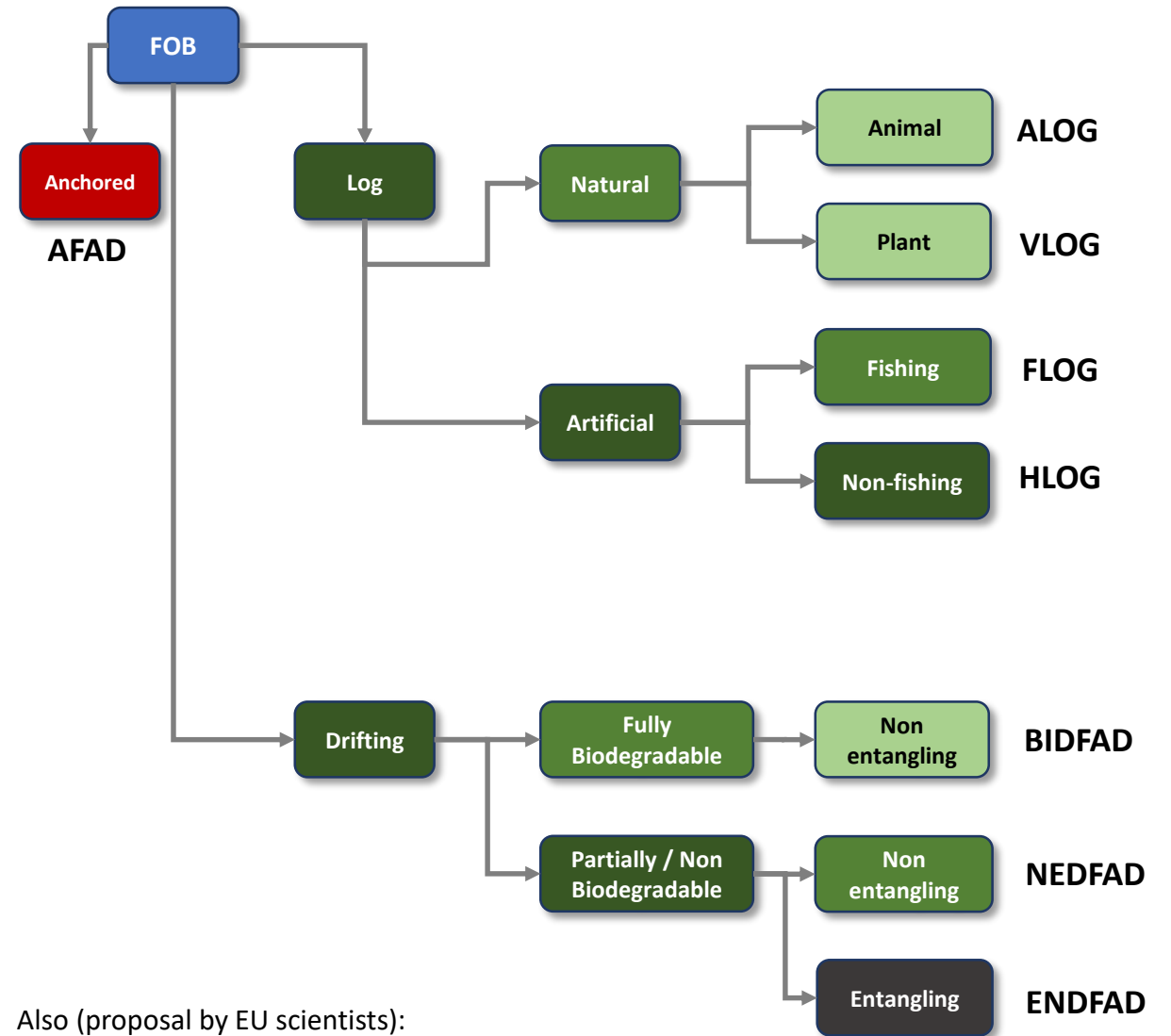
- Focuses on the **environmental impact** of the FOBs (biodegradability / entangling)
- Does not provide details about the presence of **tracking systems**, unless all FADs (BIDFAD, NEDFAD and ENDFAD) are automatically considered as *tracked* either by the owning vessel or by another vessel
- Does not include details about FOB (FAD) **ownership**

Current IOTC classification



FOB types

CECOFAD classification



Also (proposal by EU scientists):

Owned – if equipped with an **owned** buoy

Not owned – if **not equipped** with a buoy, or equipped with a buoy **not owned** by the vessel

Q: Are *artificial* logs always considered **non-biodegradable**?

Q: Are *drifting FOBs* always considered as being tracked?

FOB activity types (excluding anchored FOBs)

Current IOTC classification

Code	Description	Fishing expected
DD	Deployment of drifting FAD	No
DH	Retrieval/encounter and hauling of drifting FAD	Yes
DI	Retrieval/encounter, hauling, and intervention on electronic equipment of drifting FAD	Yes
DL	Loss of drifting FAD (tracking signal lost)	No
DR	Retrieval of drifting FAD	Yes

- Activity types **do not specify** if there's associated fishing (only whether this *can be expected*, following the activity)
- The number of FOBs affected by an activity is found in the data reporting form (as "effort" <-> No. FADs)
- The number of sets following an activity (DH, DI or DR) is found in the data reporting form (as "No. sets on FAD")
- No details about **reinforcement**, only intervention on electronic equipment
- **$\Delta\text{FOBs} = \text{DD} - \text{DR} (- \text{DL})$**

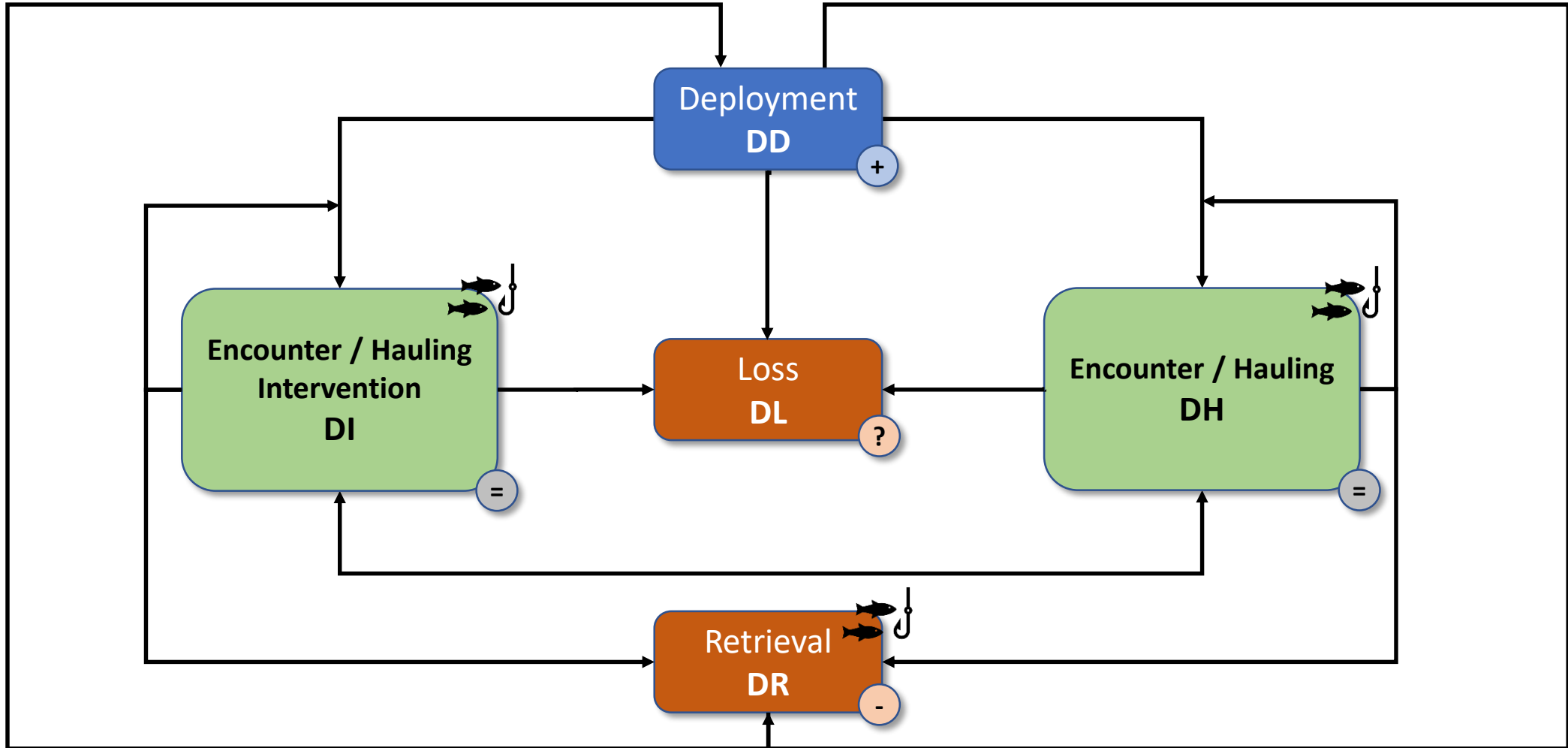
CECOFAD classification

Code	Description	Fishing expected
DD	Deployment of FOB	No
VV	Visit of FOB (without fishing, reinforcement or retrieval)	No
VR	Visit with reinforcement of FOB (without fishing). The change of beacon should be considered.	No
VT	Visit with retrieval (without fishing)	No
FF	Fishing on FOB (without reinforcement or retrieval)	Yes
FR	Fishing with reinforcement of FOB (only raft and underwater material). The change of beacon should be considered.	Yes
FT	Fishing with retrieval of FOB	Yes
LL	Loss of the FOB (includes end of transmission or remotely turning off the buoy attached to drifting FOBs and detachment of anchored FOB)	No

- Activity types **explicitly specify** if there's can be associated fishing
- Activity types **explicitly specify** if there's reinforcement and / or **change of beacon** ("*should be considered*" is ambiguous, though)
- Safe to assume that each **FF / FR / FT** activity corresponds to one fishing set?
- Safe to assume that **$\Delta\text{FOBs} = \text{DD} - \text{VT} - \text{FT} (- \text{LL})$** ?

FOB activities – state transition diagram

Current IOTC classification

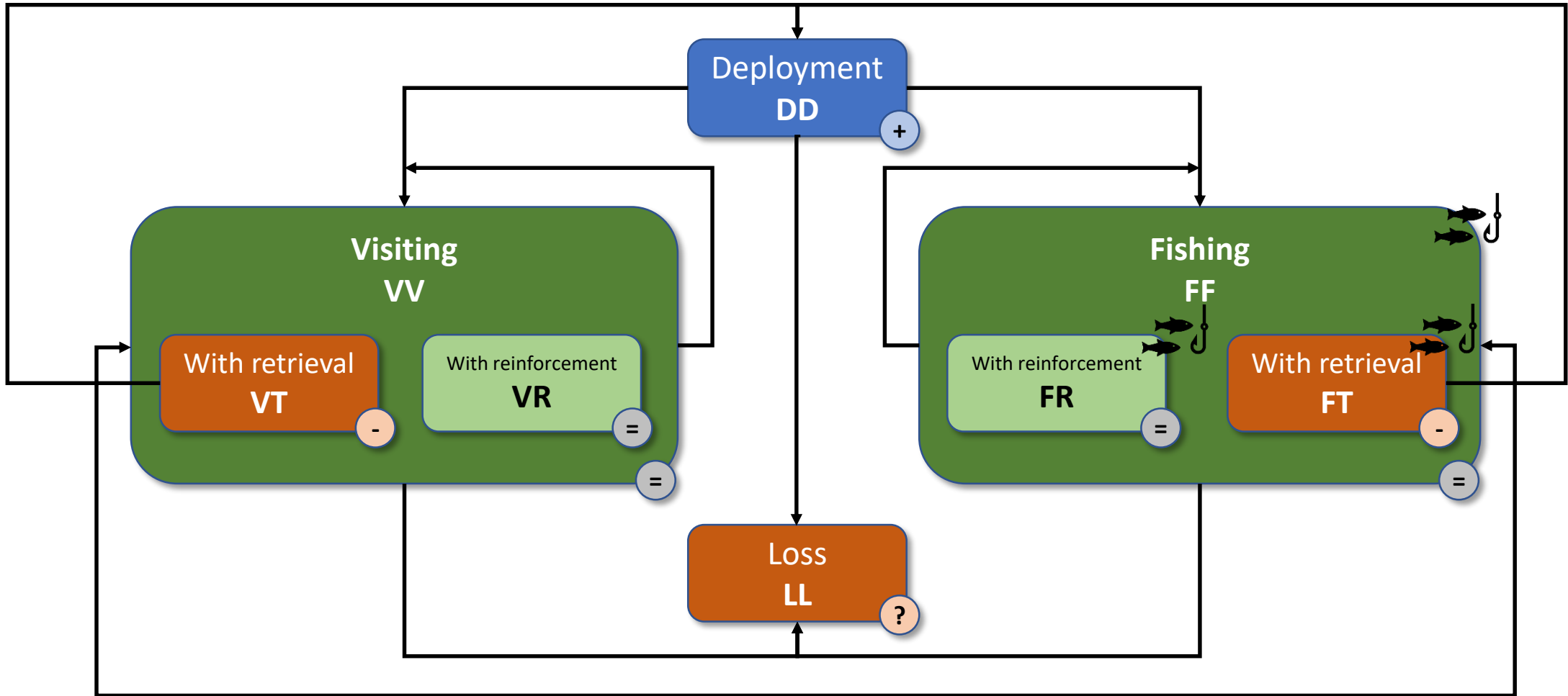


- + This activity causes an additional FOB to be put at sea
- This activity causes an existing FOB to be removed from the sea
- = This activity does not changes the number of FOBs at sea

 This activity *might* be followed by a fishing set

FOB activities – state transition diagram

CECOFAD classification



- + This activity causes an additional FOB to be put at sea
- This activity causes an existing FOB to be removed from the sea
- = This activity does not changes the number of FOBs at sea

 This activity *is* followed by a fishing set

Comments on “conclusions and general recommendations on current form 3FA”

- **Request 1:** modify the title from “*Catch and Effort*” to “*Catch and Effort on FOBs*”
- **Response:** Minor request, agreed

- **Request 2:** Delete the field “*Target species*” since it is unnecessary
- **Response:** Metadata at form level; currently optional; can be provided by fleets that are recording this data. Suggested to keep it as it is (optional)

- **Request 3a:** Rename column “*Type of FAD*” as “*Type of FOB*”
- **Response:** Minor request, agreed

- **Request 3b:** Consider FOB types based on CECOFAFAD definitions
- **Response:** See the differences between CECOFAFAD and IOTC FOB / FAD types then take an informed decision

- **Request 4a:** Rename column “*Type of visit*” as “*Type of activity*”
- **Response:** Minor request, agreed

- **Request 4b:** Consider activity types on FOBs using CECOFAFAD definitions
- **Response:** See the differences between CECOFAFAD activity and IOTC visit types then take an informed decision

Comments on “conclusions and general recommendations on current form 3FA”

- **Request 5:** Add column defining FOB ownership as table 4 in doc. 27 (“Owned” / “Not owned”)
- **Response:** *Not owned* = “not equipped with a buoy or equipped with a buoy not owned by the vessel” might be ambiguous. Suggest to add *Not equipped with buoy* as further classification to table 4
- **Request 6:** Rename column “Effort” as “No. of activities” for more clarity
- **Response:** Currently, “Effort” is expected to record the number of FOBs subject to the activity. With the proposed changes, how can multiple visits ($n > 1$) to the same FOB ($n = 1$) be recorded?
- **Request 7:** Add a column specifying the type of vessel among those in table 5 in doc. 27 (“PSEU” / “SUPP” / “OTH”)
- **Response:** Currently, form 3_FA contains the type of fishery as a *metadata* (i.e. same for all activities recorded in the form). If type of vessel is added as a new column / data, then there shall be no restriction (proposed classification in table 5 is too coarse)
- **Request 8:** Add a column on the total number of days at sea spent in each grid cell
- **Response:** Could be added, although for supply vessels it will be redundant considering also what should be reported through form 3_SU
- **Request 9:** Add a column on the total number of vessels considered in each grid cell
- **Response:** Could be added, if Request 8 is also positively considered

Comments on “conclusions and general recommendations on current form 3FA”

- **Request 10:** Delete column “*NO. SET ON FAD*” as sets are already included in the activity types of Table 3
- **Response:** Could work if we assume that each **FF / FR / FT** activity corresponds to one fishing set
- **Request 11:** Harmonize required information and codes between different t-RFMOs
- **Response:** Need to involve other t-RFMOs as well: IOTC adopting CECOFAAD classifications is not an automated guarantee of harmonization

Many of these requests are introducing **further stratifications** to the data to be reported by CPCs through form 3FA.

While in principle this is not an issue (at least in terms of **how the IOTC Secretariat should model and store the reported FOB information**) it should be thoroughly assessed - for all PS fleets operating on FOBs in the Indian Ocean - whether or not the **responsible CPCs are capable of collecting FOB data with the required level of detail**.

In any case, before implementing any change to the data reporting requirements, it is crucial to identify the **most likely type of analysis** to be performed on the collected data, and **ensure that the proposed changes are adequate enough to support this analytical process**.

