

## Methodology for randomly collecting biological samples from fishing vessels.

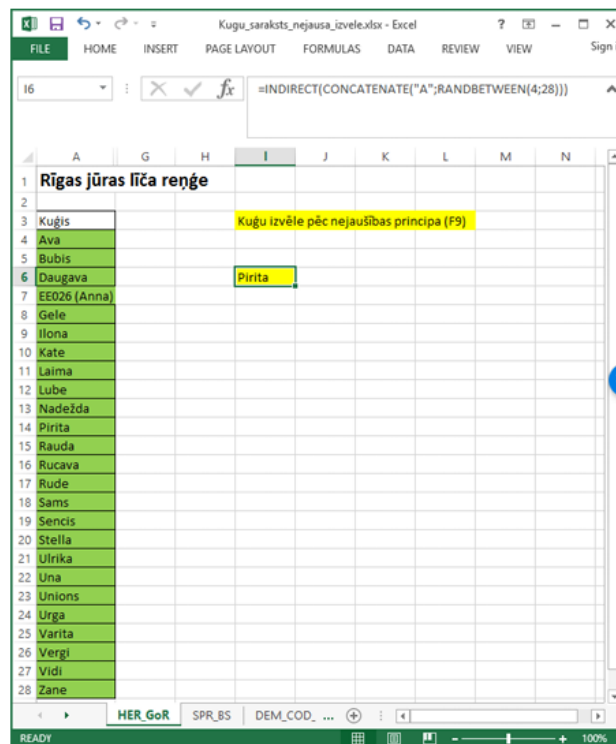
At the end of each year, the Ministry of Agriculture's Fisheries Department compiles a list of fishing vessels that are authorized to engage in industrial fishing in the Baltic Sea and the Gulf of Riga. This list specifically indicates the fish species that each individual vessel is allowed to catch in a particular fishing area. Fish species on this list are divided by fishing sub-division, such as sprat fishing in SD 22-32, herring fishing in SD 28.1 (Gulf of Riga), cod in SD 22-24 and SD 25-32, salmon in SD 22-32, flounder in SD 22-32, herring bycatch in the Baltic Sea in SD 25-32 during sprat fishing, and sprat bycatch in the Gulf of Riga in SD 28.1 during herring fishing.

It should be noted that not all vessels with fishing permits actively participate in fishing. The list is modified, vessels are grouped by the type of fishing and location, resulting in three separate segments:

- Specialized cod fishing in the open part of the Baltic Sea (OTB\_DEF\_>=105\_1\_120).
- Specialized sprat fishing in the open part of the Baltic Sea (OTM\_SPF\_16-31\_0\_0).
- Specialized herring fishing in the Gulf of Riga (OTM\_SPF\_16-31\_0\_0).

In case there is a shortage of flounder samples from specialized cod fishing, efforts are made to obtain them from vessels engaged in specialized flounder fishing. The list of vessels is based on the previous year's catch data for those vessels engaged in specialized flounder fishing. Each vessel can belong to multiple segments, and vessels are selected individually for each segment. The list is not prepared separately for each fishing port.

Random selection of vessels from a prepared list for each individual segment is done using the EXCEL function RANDBETWEEN:



The formula =INDIRECT(CONCATENATE("B",RANDBETWEEN(2,25))) is used in this function. This function specifies a column from which to select information (in this example, it's done based on column B, which contains information about ship names), as well as information about the first and last row numbers in the list that collects ship names. By pressing the ENTER key, we obtain the name of the first randomly selected ship. By pressing the F9 key, we obtain the name of the next randomly selected ship. The probability of selecting the same ship again within a year is very low. In case the random selection of a ship repeats within a quarter, this selection is ignored, and the procedure is repeated. **Ships can be selected again within a quarter only in exceptional cases if the ship is the only one participating in specialized fishing for the fish species of interest.**

When the ship's name is known, you need to contact the owner of the fishing company (the ship's captain) to discuss the possibility of going on the next trip with that ship. The conversation with the ship's representative should be documented. The ship selection protocol should include the following information:

Type/segment of fishing - (specialized cod fishing)

Chosen ship name - (Jurmala)

Contact with the fishing company representative (date of conversation, time, contact person, phone number, the person who contacted the company representative, evaluation of the conversation – (positive/negative)

Whether the ship is suitable for observer work (yes/no; if "no," then the reason why it's not possible)

Whether the ship is available for the next trip (yes/no)

Whether the trip took place on the selected ship (yes/no).

If it is not possible to carry out the planned trip on the selected ship, the ship selection process is repeated, and contact is initiated with the next ship's representative. If, due to unforeseen circumstances, the necessary amount of information cannot be collected during the trip, it is preferable to conduct a repeat trip on the same selected ship.

If the fishing vessel's representative does not answer a phone call, a message is sent to the phone number or email address: "A representative of the BIOR Institute attempted to contact you regarding the possibility of collecting biological material on your vessel. Please respond!" The maximum time allocated for contacting the ship's representative is 1 day (24 hours). If contact is not established during this period, the next ship is selected randomly from the list. If a positive response is received, and the trip cannot take place within 7 days, the next ship is chosen. This rule is not applied if it is related to adverse weather conditions affecting the entire fleet's operation.

If there has been successful cooperation with the ship in the past, before calling the ship's owner (captain), electronic fishing journals are used primarily to verify information from the latest fishing journals and determine whether the ship is involved in the required type of fishing from which biological material needs to be collected (for example, specialized cod fishing, but it is evident that the ship is engaged in specialized sprat fishing). This means that the ship is currently not available for collecting biological information from our segment of interest. The obtained information is noted in the ship selection table without making a call to the ship's owner, and the next ship is selected from the list.

Not all ships on the list, for various reasons, may be available for observer work at sea. The reason in such a case is noted in the ship selection protocol. If the ship's owner categorically refuses to cooperate, the information is reflected in the ship selection protocol. In the current year, the ship will no longer be selected for work in the relevant segment, and the ship's name is moved to the end of the list outside the formula's operating range.