Distance from High Risk Farms.

Atlantic salmon farms are located inside the habitat of wild Atlantic salmon, especially in the areas that have been determined as critical for this endangered species. Asking the farmers to move to other areas is not a plausible thing to do, but after doing this analysis and showing that these areas have a high risk of transmission, biosecurity strategies should be more regulated. The established penalties for farmers that don’t follow this strategies should be more reinforced.

Reintroduction of Atlantic wild salmon to the ecosystems is a key part of the conservation strategies that are taking place in the Gulf of Maine. This analysis can inform the agencies that are doing the reintroduction about the areas that are best suited by considering the risk of spillover from farmed salmon. The sea cages in which the salmon are harvested provide good breeding and feeding grounds for sea louse, which has been determined to be a vector of ISAV.

Dealing with farm industries and outbreak information is a very sensitive task. Legally, the agencies that get the reports of disease outbreaks are prohibited to share any of this data with outside parties. The main reason for this comes from a confidentiality agreement. This analysis would’ve been a more complete one if the information of outbreaks by farms were available, since this wasn’t the case this analysis selected all farms that were located in the bay that had outbreaks. Another limiting factor was the lack of data on the incidence, distribution, and abundance of sea louse. This species has been identified as a vector for ISAV therefore it is a very important factor that should be taken into consideration in this type of analysis.

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Instructor: Carolyn Talmadge
Projection: NAD_1983_UTM_Zone_19N
Data Sources: Maine Office of GIS, National Hydrology Dataset USGS, ESRI, NOAA Fisheries

Distance from Farms=25%, distance from high risk farms=30%, density of farms=35%, and Atlantic salmon habitat=10%.