

Baccalaos Cove Cod Fishery, Canada

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1 Static Analysis - Collective action

1.1 The Commons Dilemma

The inshore fishery is nested alongside the rural fishing settlement on Newfoundland's Burin Peninsula, Baccalaos Cove. The key resources (natural infrastructure) in the system are the marine food web. The key shared resource relevant to the commons dilemma faced by the community is the capelin (the small fish that cod feed on) and cod fish stocks and their productivity (common-pool). The original case, which spans 1977-1979, catalogues 114 out of 280 adults, fishermen, and the case did not state the exact number of boats, cod traps, nets, hand lines, jiggers or other gear; the resource unit is fish. Most fishermen have property rights transferred through patrilineal kinship ties that secure belonging to a fishermen crew as shareholder. Merchants historically participated in debt/credit relationships with fishermen through investing up front in hard human made fishing infrastructure that fishermen would pay off at the end of the fishing season, while the fishermen that were shareholders would split the remaining fish. Historically fishermen have controlled access to the CPR through informal social norms around property rights that served to keep fishing crews crowd or family, as agnates, though occasionally affines were included. A Lottery Committee controls the site selection for trap berths in the summer for fishermen crew. Outside of berth trap lottery site control, the fishery is regulated through informal social processes, economics limitations/competing industries and fishing effort ability.

1.2 Biophysical Context (IAD)

Natural Infrastructure: Baccalaos Cove is isolated and was not settled until the late 17th century. According to the original case study (Powers 1984) the Purin Peninsula is approximately 106 miles long and at its widest point, 15 miles across. Bare rocks form most of the shoreline outside the harbors and small coves. The vast majority of the shore line is rock, with only one sandy beach suitable for recreational swimming on the whole of the Peninsula. The Baccalaos Cove is a fishing settlement in Placentia Bay on the eastern shore of the Burin Peninsula of Newfoundland. It is situated at the head of a long narrow inlet which provides a deep, well protected natural harbor. A natural breakwater near the head creates an inner harbor which provides added shelter. Steep ridges, about 450 feet above sea level, bound the inlet on both sides. Fishermen in Baccalaos Cove make a good living fishing in the summer and fall and supplement their living with small scale horticulture and/or gardening, hunting and cattle or sheep-raising (Powers 1984). On the water, there are berth traps for the cod fishery. Beyond the berth traps, the original case notes (Powers 1984) there are 22 other named offer or jigging grounds and three trawling locales. No

apparent conflict seems to arise from the overlapping between the other nearby fishing communities despite their proximity.

Hard human-made infrastructure: The original case study notes (Powers 1986), the berths, which are located near a rock or a body of land to allow the fishermen to attach their traps, range in depth from 12-16 fathoms of water and are contiguous. The case study does not note how many total berth traps are present in the inshore fishery, nor does it state exact number of boats, cod traps, nets, hand lines, jiggers or other gear. However, since the case study does only reference two boats with loran and radar, it can be inferred that most of the vessels are small and without any large scale technological competitive advantages.

1.3 Attributes of the Community (IAD)

Social Infrastructure: While the right to fish is not restricted to community members, and agnates, there are strong social norms that limit the participation of outsiders in local fishing crews. According to the original case (Powers 1984, pg 95), the Lottery Committee, chosen by a vote among the fishermen, selects the berths entered according to the number of crews that will be fishing that year and is supervised by a representative from the Department of Fisheries of Canada.

Human Infrastructure: There were approximately 1,100 residents at the time of the case study and it was estimated that 79% of them were traditional fishermen. From the source document (1984 Powers) in 1977 in the summer there were 11 trap crews (59 men) and 9 crews (20 men) fishing without traps with an additional two men fishing alone. The end of the summer voyage and beginning of all fishing saw the break-up of all trap crews and at that time 38 men left the skiffs (leaving 21), and 24 men, who had not been on the summer voyage, began fishing alongside two small boat crews leaving 49 men in two crews and one man fishing alone during the fall.

1.4 Rules in Use (IAD)

- Position Rules:
 1. The existence of the position of crowd
 2. The existence of Lottery Committee member
 3. The existence of the position property owner
- Boundary Rules:
 1. Fishermen vote other fishermen into Lottery Committee
 2. Lottery system for berths in trap cod summer season
 3. If property position is sea facing, property has "right to sea"
 4. Agnate garden/kinship linkages determine fishing crew as shareholder vs. sharemen
 5. Sometimes a non-agnate can enter the position of crowd through marriage to a female with use rights of property that has right to the sea
- Choice Rules. The case study did not mention obvious choice rules.

- Aggregation Rules.
 1. Skipper is responsible for decision making during voyage, but if there is a more experienced fishermen who objects, the decision can be changed
 2. Department of Fisheries in Canada has the authority to supervise which berths get placed in the lottery drawing. The case does not mention instance of this authority being employed in any context.
- Scope Rules
 1. Trap berth areas are designated for those fishermen using traps to catch and haul the fish and while their locations are known by all the local (and neighboring output) fishermen their use by trap fishermen only is known and accepted
 2. According to the original case document (Powers 1984), there is no legally sanctioned lottery system for the fishing grounds exploited by those fishermen using hand lines, nets and jiggers or trawls.
- Information Rules. Fishermen with radios, radar & loran keep their communications and sites secret to other fishermen (particularly important for protecting local spots from strangers)
- Payoff Rules. The case study does not mention pay off rules.

1.5 Summary

The success of the Baccalaos Cove inland fishery can be attributed in large part to the social norms, kinship organization, weather & seasonal fishing limitations, a lack of resources to invest in more sophisticated fishing technology (locally) seem to keep the inland fishery manageable and keep it from being overfished (inference). Additional constraints on the fishery include the power that the merchants hold over the fishermen as gatekeepers to non-local goods, as well as the ability to invest in the form of debt generation in the hard human-made infrastructure the fishermen rely on for producing fish. Finally, in this case, it seems that the fishery, while an important source of economic livelihood and subsistence, it was not the only source of subsistence or economic production in the community. Interestingly, the case study notes that the introduction of the lottery for berth traps actually might have introduced exogenous stress on the system because it eliminated what was previous ecological randomness and balance which prevented the fish supply from becoming depleted, which still providing the fishermen with a good voyage because before the lottery some very good berths were not regularly exploited through each fishing season.

2 Case Contributors

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