

# CONSEQUENCES OF THE DECISION TO SHUT DOWN SALMON FARMING IN THE DISCOVERY ISLANDS

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RIAS INC.  
February 2021



PREPARED FOR



BC SALMON  
FARMERS

## SUMMARY

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On December 17, 2020, the Minister of Fisheries, Oceans, and the Canadian Coast Guard announced the federal government's intention to:

- Phase out existing salmon farming facilities in the Discovery Islands, with the upcoming 18-month period being the last time this area is licenced;
- Stipulate that no new fish of any size may be introduced into Discovery Islands facilities during this time, starting immediately;
- Mandate that all farms be free of fish by June 30th, 2022, but that existing fish at the sites can complete their growth-cycle and be harvested before that date.

This report examines the financial, economic, and social consequences of this decision for workers, families, businesses and communities in the Discovery Island region and beyond, as summarized below:

### IMPACTS OF THE SHUT DOWN OVER THE NEXT 18 MONTHS

- More than 24% of BC's farmed salmon production is being shut down;
- Potentially more than 1,500 people could lose their jobs in the near term. This includes:
  - At least 690 direct salmon farming jobs across the entire production cycle – broodstock farms, hatcheries, smolt farms, ocean farms, and primary processing;
  - BC businesses supplying goods and services to the salmon farming sector will lose over \$155 million in business annually, putting an additional 630 jobs at risk across the province;
  - More than 200 induced jobs will be at risk at local businesses where salmon farmers spend their income – as diverse as grocery stores and vehicle dealerships.
  - More than 10.7 million young salmon and fertilized eggs currently in hatcheries and other facilities and which were designated to be raised in the impacted farms will have to be euthanized. This is equivalent to over 210 million meals worth of fish or about two years' worth of the province's total harvest of wild salmon.
- Potential losses to BC's salmon farmers from having to euthanize 10.7 million young fish amount to over \$170 million.
- Salmon farmers will incur costs associated with decommissioning farms, made greater by the short timeline required.
- Salmon farming companies will lose almost \$200 million in ongoing annual revenue from salmon farming and processing.

## ONGOING RIPPLE EFFECTS ACROSS NORTH ISLAND COMMUNITIES

- In total, almost \$390 million in annual economic output in BC will be lost, with \$87 million less in annual salaries and benefits and 1,535 fewer jobs, mainly in remote coastal communities of BC where there are very few alternative employment opportunities or income sources for families.
- \$21 million less in annual tax revenue at the local, provincial, and federal levels.
- First Nations partners will lose lease revenue companies pay on a quarterly or annual basis.
- Decreased donations to local food banks from salmon farming companies.
- Decreased support for hatchery and wild salmon restoration programs from salmon farming companies.

## IMPACTS ON FUTURE INVESTMENT AND BC'S RECOVERY

Prior to the Discovery Islands decision, BC salmon farmers had planned to invest over \$1.4 billion in the province in new technology and equipment, which would generate an estimated \$2.7 billion in annual economic output and 10,950 additional jobs by 2050. These investments are now in jeopardy, which has direct implications for BC's economic recovery, particularly in remote coastal communities.



# LOSS OF PRODUCTION AND JOBS IN THE DISCOVERY ISLANDS

Table 1 below provides estimates of the full direct, indirect, and induced economic impacts across BC that result from salmon farming in the Discovery Islands:

- Direct impacts are derived from the operations of front-end businesses that receive revenue and incur expenditures as a direct consequence of salmon farming operations. Salmon farming operations include broodstock farms, hatcheries, smolt farms, ocean farms, and primary processing of farm-raised salmon.
- Indirect impacts arise from the economic activity for suppliers of these front-end businesses, and at value-added processors.
- Induced impacts arise from the spending on goods and services as a consequence of the incomes earned by employees of the directly and indirectly affected businesses across BC.

**Economic Contribution of Salmon Farming in BC**

Every \$1 of farmed salmon produced in BC generates:

- ✓ \$1.96 in total economic activity across BC
- ✓ \$0.78 in revenues for BC companies supplying goods and services to salmon farms
- ✓ \$0.44 in wages for BC workers
- ✓ \$0.11 in tax revenues for governments

**Table 1: Annual Economic Losses from Shutting Down Salmon Farming in the DI**

	Output (millions)	GDP (millions)	Labour Income (millions)	Employment (FTEs)	Total Tax Revenues (millions)
Direct	-\$198.7	-\$61.9	-\$50.8	-222 (salmon farming) -468 (other front-end operations)	-\$10.4
Indirect	-\$155.2	-\$54.6	-\$28.1	-630	-\$8.8
Induced	-\$35.6	-\$22.7	-\$7.9	-215	-\$2.4
<b>Total</b>	<b>-\$389.6</b>	<b>-\$139.1</b>	<b>-\$86.8</b>	<b>-1,535</b>	<b>-\$21.5</b>

Source: Estimated loss in output (\$198.7 million) was calculated using an expected average price in 2021 of \$9.25/kg x the average annual production (tonnes) from sites in the Discovery Islands reported to RIAS Inc. by salmon farming companies. Annual economic losses for BC were estimated by applying Input-Output multipliers from RIAS Inc.'s 2020 "Raising Opportunity" report for the BCSEA to the estimated revenues from salmon farming operations in the DI.

Notes: Direct impacts are for all "front-end" salmon farming operations, which includes not only on-farm grow-out activities, but broodstock farms, hatcheries, smolt farms and primary processing of farm-raised salmon as well.

As this table demonstrates, annual losses to the BC economy will amount to a reduction of almost \$390 million in economic output across the province, \$139 million less GDP, loss in salaries and benefits for BC workers of almost \$87 million per year, and some 1,535 BC jobs across a range of sectors in the province, mainly in remote Indigenous and non-Indigenous coastal communities of BC where there are very few alternative employment opportunities.

This estimate is likely conservative, and the ultimate impact yet uncertain. The estimates in Table 1 could considerably understate the ultimate economic losses in BC resulting from closure of salmon farms in the Discovery Islands. Input-output models used in economics are constrained in their ability to accurately reflect the full effects across an industry value-chain when the "exogenous shock" to an industry is large enough to alter the underlying structure of dependencies between sectors, and the survival of suppliers in non-diversified markets. Shutting down 24% of an industry's production likely exceeds this threshold, particularly when it takes place in a predominately rural economy where businesses within the supply chain have very limited opportunities to pivot their operations to other sectors or markets. Some businesses may fall below economic viability and be forced to cease operations. Businesses operating in fish processing, high-tech equipment supply, and fish net supply have already expressed concern that the impact of this decision is significant enough it could make them

economically unviable and force them to go out of business entirely, even though salmon farming is not their only line of business. In such instances, the indirect impacts shown in Table 1 would likely be larger than shown. This would have cascading forward effects (on induced impact estimates) and backwards effects (on direct impact estimates).

Overall, the estimates in Table 1 should be viewed as lower bound estimates of the likely impacts on BC's economy over time.

#### AN EXAMPLE – ONE SEGMENT OF THE SALMON FARMING INDUSTRY:

Table 2 provides summary information on the impact of this decision on the 19 salmon farms within the Discovery Islands operated by Mowi Canada West, Cermaq Canada and Grieg Seafood BC that are now in the process of being shut down as a result of the December 17 decision. Salmon farming is a highly integrated business, so the impact of this decision goes far beyond the operations related to the 19 farms. Therefore, this is only part of the impacts, and does not include direct jobs in other divisions of those companies nor indirect jobs at suppliers. This also does not include data for two other farm companies whose licences are for Pacific salmon and other species of fish, but who were also included in the decision to close farms sites in the Discovery Islands.

**Table 2: Loss of Salmon Farming Production and Jobs in the Discovery Islands**

Number of Salmon Farms	# of Employees Directly Involved in Discovery Island Farm Operations	Average Annual Production (tonnes)	% of Farmed Salmon Production in BC
19	222	21,490	24.2%

Over 24% of BC's farmed salmon production is being shut down. A total of 19 Atlantic salmon farms will be closed, comprising over 30% of Mowi Canada West's production, 20% of Cermaq's production and 12% of Grieg Seafood's production. Overall, 21,490 tonnes in annual production in the Discovery Islands will be lost, equaling more than 24% of BC's total annual farmed salmon production in 2019.

Layoffs will start in Q1 2021. Layoffs will commence in Q1 2021 and more than 220 people directly related to the salmon farms will be impacted. This does not account for direct jobs in other front-end salmon farming operations like processing, nor indirect jobs at local suppliers or induced jobs.

Because the companies are unable to stock those farms going forward and several of the farms were empty and scheduled for stocking early in 2021, those impacts will start being felt in the first quarter of 2021, with layoffs beginning in that period. The companies must also account for the time it will take to decommission farms, and so will have to shut them down well before the 18-month cut-off. Further, more than 10.7 million young fish ready for transport to those farms will have to be euthanized (see Table 5 below).

**Table 3: Impacts of DI Closures on Employees Working on Impacted Salmon Farms and their Families**

	Courtenay/ Comox/ Cumberland	Campbell River/ Sayward/ Discovery Islands	Port Hardy/ Port McNeil	Port Alberni/ Tofino/ Ucluelet	West Coast NVI	Sunshine Coast / Metro Vancouver	Other areas in BC	Total
Number of employees – by residence location	19	92	18	4	1	83	5	222
Salaries & benefits (millions)	\$1.47	\$7.30	\$1.43	\$0.34	--	\$6.48	\$0.59	\$17.7
% above average salary for the region	31.7%	52.6%	34.1%	50.8%	--	33.5%	--	--
Number of dependent adults affected*	13	51	4	2	1	51	3	125
Number of dependent children affected**	8	48	8	6	0	53	9	131

Source: RIAS Inc. calculations based on data submitted by BC salmon farming companies and salary data by from Statistics, T1 Family File, Table I-04 - Individual data - Taxfilers and dependents with income by source of income, 2017

Notes: \* dependent adults risk losing or facing reduced extended health, dental, life insurance or spousal RRSP's

\*\* dependent children face risk of losing extended health, dental or life insurance

The job losses are real: affecting workers and their families across BC. BC salmon farmers have built a strong employee base in the coastal communities they operate in, with jobs paying approximately 30% more than the median employment income in BC. Many employees support dependent adults and children. Table 3 shows the number of salmon farming company employees, including Indigenous employees, working directly on the farms who will likely lose their jobs as a result of the Discovery Islands closures, the resulting loss in salaries and benefits, and the number of adult and child dependents that would be affected. Again, this does not reflect direct jobs in other front-end salmon farming operations nor indirect jobs at suppliers, but is being used as an example.

The week-on/week-off nature of many farm positions allows employees to live in their own communities throughout Vancouver Island and mainland BC and commute to work once a week. Thus, while many salmon farm workers live near their worksite, many live in other regions including Metro Vancouver. This is likely less true for employees working at land-based facilities such as hatcheries and processing facilities, which have a more traditional work schedule. Thus, the impact of those job losses will be more focused in the Campbell River and larger Vancouver Island regions.

Most jobs at BC salmon farming companies are full-time permanent roles with employer-paid benefits including pensions, matching RRSP contributions and up to 100% coverage for prescriptions, dental and vision care. This is a significant factor for the many young families working in aquaculture and contributes to the low turn-over in this sector. The exception is long-term disability coverage, which must be employee-paid. Starting salaries are generally over \$19/hour, with benefits for the employee and families in place. That is a starting wage which is over \$4/hour more than BC's \$14.60/hour minimum wage, plus the cost of their benefits, which are normally about 20% of salary.

In contrast, jobs in other major business sectors on the BC coast tend to be seasonal, such as the commercial fisheries, tourism and seasonal harvesting industries, and are typically part-time, lower paying, and lack benefits such as employer paid medical benefits, paid vacation time and employer-matching RRSPs. This means that for many households in both Indigenous and non-Indigenous communities on north Vancouver Island, the salmon farm employee is the primary wage earner and possible the sole source of family medical and extended coverage benefits. As shown in Table 2, the average salaries earned by salmon farming employees are between 32% to 53% more than average salaries by region.

Average loss of more than \$79,000 in salary and benefits per family. The closure of these 19 salmon farms in the Discovery Islands means that 222 families with a member working directly on one of those farms will lose, on average, more than \$79,000 in salary and benefits per year. As detailed in Table 3, this will affect 125 adult dependents (spouses or partners) and 131 dependent children. Losing that income and benefits is a significant destabilizer to households:

When an employee loses a job in salmon farming, adult partners are also affected negatively beyond a loss of income into their homes, by losing out on RRSP contributions for their future, losing life insurance on their partner, and losing extended health, dental and life insurance for themselves.

For children under the age of 18, there is a loss of extended health, dental and life insurance benefits.

### IMPACT ON LOCAL BUSINESSES

Table 4 shows how many businesses, located across BC, that supply goods and services to salmon farming operations would be affected, and the amount of revenue they would lose from the closure of salmon farming sites in the Discovery Islands region.

The Sunshine Coast and Metro Vancouver region will see the most significant impact by revenue, Campbell River/Sayward/Discovery Islands by number of impacted local businesses.

Suppliers to the salmon farming include companies which provide feed, nets/ pens/cages/ tanks, diving services, floatation systems and buildings, engines and mechanical supplies and services, refrigeration and cooling, processing and packaging, electrical/plumbing products and services, construction services, safety devices, fuel, transportation services, insurance/finance/accounting services, legal services, consulting and research services.

**Table 4: Impact of Discovery Islands Closures on Suppliers of Goods and Services in Local Communities**

	Courtenay/ Comox/ Cumberland	Campbell River/ Sayward/ Discovery Islands	Port Hardy/ Port McNeil	Port Alberni/ Tofino/ Ucluelet	West Coast NVI	Sunshine Coast / Metro Vancouver	Other areas in BC	Total*
Number of suppliers of goods and services to Discovery Islands salmon farms	48	267	62	97	5	214	57	759
Annual spending on these suppliers (\$ millions)	\$3.34	\$20.47	\$5.39	\$4.52	\$0.54	\$40.61	\$12.93	\$90.9

Source: RIAS Inc. calculations based on preliminary data submitted by BC salmon farming companies.  
Notes: \* total includes spending on vendors outside of BC.

### OTHER COMMUNITY IMPACTS

Indications from both the provincial and federal governments highlight that the COVID-19 pandemic will continue to impact BC for months to come – creating mental health concerns, financial impacts on individuals and families, increasing rural communities' demands for food bank support, increasing domestic violence, and worsening related alcohol and drug issues. History has shown similar impacts occur when large-employer sectors close operations and lay off large number of employees in rural communities.

A recent report highlighted that Campbell River has three primary economic pillars – aquaculture, forestry, and tourism. With the pandemic affects already being felt in the region through the loss of tourism dollars, the closure of this second vital industry could be catastrophic for the North Island region as it will have ripple affects throughout the community.



## SHORT-TERM ACTIONS/DECISIONS

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There are a number of immediate actions and decisions that salmon farming companies and businesses supplying the salmon farming sector will have to take, or in many cases have already started to take:

- **Freeze on planned investments:** Shortly following the Minister's decision, investment plans were put on hold by head offices. In some cases, capital investment in equipment is still being contemplated, but investment in new construction to expand production has been frozen.
- **Termination of commercial or benefits agreements:** Existing commercial or benefits agreements in the Discovery Islands will be terminated.
- **Euthanization of salmon:** Unless an extension to the 18-month deadline is granted, 10.7 million fish will have to be euthanized, and this process will begin taking place in mid-February 2021.
- **Impact on the ability to support communities through sponsorship and donations programs:** Reduced operations will have a negative impact on the ability of salmon farmers to support annual community giving and support programs such as food bank donations, support for local youth programs and initiatives, and ongoing involvement in community-led shared value projects.
- **Reduced support for local salmon enhancement and restoration work:** Reduced operations will limit the ability of local salmon farming companies to provide both financial and in-kind support for local non-profit enhancement groups and to support large habitat restoration projects.

## DESTRUCTION OF SALMON TO MEET 18-MONTH DEADLINE

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**5-Year Planning and Production Cycle:** Salmon farms operate on a five-year cycle. In order to effectively operate, salmon farming requires advance planning of upcoming generations of fish, site following and contingency planning for up to 60 months.

- **Broodstock to egg:** BC salmon farmers raise and care for broodstock fish in specialized farm sites. Broodstock are grown for three to four years prior to spawning. Egg requirements and therefore the number of broodstock fish required are established based on a five-year saltwater plan.
- **Freshwater stage (12-24 months):** Eggs from the companies' broodstock are raised in land-based hatcheries on Vancouver Island. They spend the first 1-2 years of life in those sites, until they are in the 100-150 gram size and ready for ocean pens. This replicates how Atlantic salmon thrive in the wild – spending the first part of their lives in fresh water lakes and streams before migration to the ocean.

- Saltwater stage: (18-22 months) Smolts are stocked (ponded) into nursery sites and grown to about 1 kg size, and are then transferred to a grower site – what one might commonly envision as a salmon farm. This process takes another 18-22 months. The life-cycle of a salmon from egg to harvest is about three years total.
- Fallow period (2-6 months): All sites are fallowed between batches of fish.
- A typical production cycle including fallowing ranges from 32 to 52 months.

The 18-month deadline set in the initial Discovery Island decision does not allow for or recognize the reality of the full planning and production cycle for farmed salmon. Thus, it will require extensive culling of fish currently in the egg – smolt stages who were designated for the Discovery Islands farms.

**Table 5: Farmed Salmon Losses in DI at Various Stages of the Production Cycle (18-month deadline)**

	Current Number of Salmon	Current Book Value (\$ millions)	Number That Must Be Euthanized	Cost to Euthanize	Lost Profit (\$ millions)	Total (\$ millions)
Broodstock (salmon and parr)	58,000	\$1.9	57,000	\$108,000	\$19.4	\$21.4
Eggs/alevins	5,390,000	\$1.1	5,390,000		\$28.9	\$30.0
Parr/smolt in freshwater hatcheries	2,050,000	\$7.3	2,050,000	\$399,000	\$23.4	\$31.0
Smolt in saltwater nursery sites	3,250,000	\$15.3	3,250,000	\$1,185,000	\$34.1	\$50.7
Young fish in saltwater grow-out sites	1,720,000	\$38.5			\$0.0	\$38.5
Total	12,468,000	\$64.1	10,747,000	\$1,692,000	\$105.8	\$171.6

Source: RIAS Inc. calculations based on preliminary data submitted by BC salmon farming companies

Table 5 shows the total number of salmon at each stage of the production process for the 19 salmon farms in the Discovery Islands. In total, including broodstock, there are almost 12.5 million salmon currently in the Discovery Islands production cycle (other than those currently on the farms themselves). While the companies will be able to find space at other facilities for some of the fish, given that 26.3% of their total farm capacity is being eliminated, most fish will have to be euthanized.

Since the decision stipulates that no new fish of any size may be introduced into Discovery Islands facilities over the 18-month period, more than 10.7 million salmon already in the operational cycle with a current book value of more than \$64 million will have to be euthanized, at a cost of about \$1.7 million. At harvest, those 10.7 million salmon would have become over 210 million healthy meals, the equivalent of more than two years of wild salmon landings in BC.

The return on these salmon if they were to reach harvest size would be about \$105 million. With current book value and costs of euthanizing the fish factored in, the total loss for salmon farming companies would be over \$170 million.

## OTHER FINANCIAL CONSEQUENCES

Table 6 shows other losses BC salmon farmers will be forced to absorb. Decommissioning costs are expected to range from over \$11 million to more than \$17 million. It must also be noted that no decommissioning can take place without a site licence, and the Minister stated that the Discovery Islands site licenses will not be renewed in June 2022. Capacity does not exist within BC to decommission all sites in the Discovery Islands in only 18 months. Contractors from outside of the province will have to be brought in to meet the deadline, at much higher cost than local firms.

**Table 6: Preliminary Estimates of Site Decommissioning/Closure Costs (18-month deadline)**

	Low Estimate (millions)	High Estimate (millions)
Net-pen removal	\$6.6	\$10.7
Other facilities, infrastructure	\$4.9	\$6.5
Total	\$11.5	\$17.3

Source: RIAS Inc. calculations based on preliminary data submitted by BC salmon farming companies

Even with additional outside contractors, it is not yet clear whether the 18-month deadline can be met, leaving the prospect that some pens, facilities and infrastructure will still remain in the water, unlicensed and untended, after June 2022.

Table 7 shows other financial impacts that companies are expecting, such as loss of sales due to the impact of loss in volume/scale on supply arrangements and prices with retailers, and potential loss of customers to other countries, and other costs such as staff re-training and severance.

**Table 7: Preliminary Estimates of Other Financial Losses (18-month deadline)**

	Low Estimate (millions)	High Estimate (millions)
Impacts on remaining sales	-\$13.4	-\$13.4
Staff training/re-training/re-location costs	\$0.16	\$0.48
Staff severance	\$2.24	\$3.31
Total	\$15.8	\$17.2

Source: RIAS Inc. calculations based on preliminary data submitted by BC salmon farming companies



# IMPACT OF THE DECISION ON BC'S RECOVERY

The figures in this report do not include the loss of economic benefits related to capital investments that BC salmon farming companies had planned to make but have now had to put on hold due to this decision. The BC Salmon Farmers Association's (BCSFA) "Raising Opportunity" report outlined the planned investments and positive future prospects for the salmon farming industry, the coastal communities within which they operate, and for Indigenous partners. Released in November of 2020, the report quantified the important role the sector was poised to play in BC's recovery from the COVID pandemic.

Overall, BC salmon farmers had planned:

- Investing \$113 million in new facilities and technology in the short term (2021), generating an additional 13,580 tonnes of annual production capacity.
- Potential for an additional \$684 million in investments in the medium term, increasing production capacity by more than 65,000 tonnes.
- Potential for even more investments in the longer term of \$618 million, adding 54,000 tonnes of production.

**Figure 1: Impact of the Decision on Salmon Farming in BC to 2050**

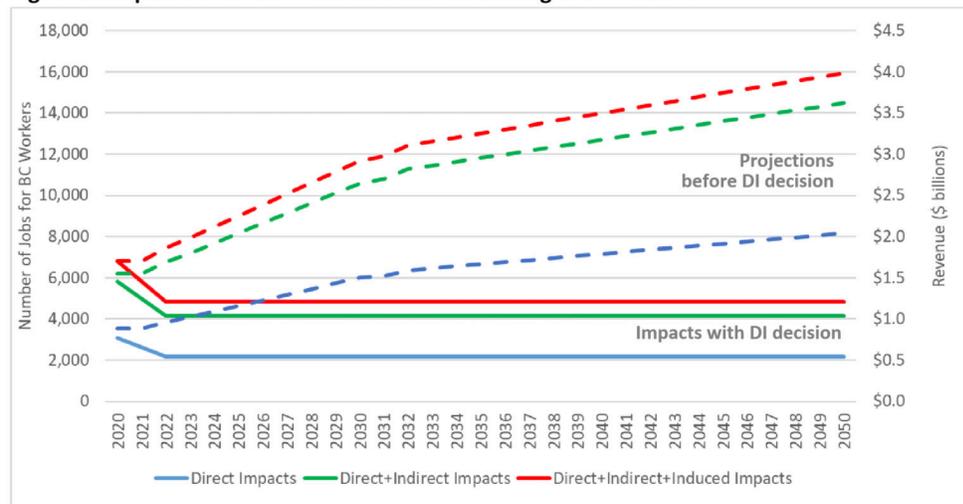


Figure 1 shows the projected economic benefits of the sector's planned investments across BC vs. the likely future due to the Discovery Islands decision:

- By the end of 2021, BC salmon farming was expected to generate total economic output across the province of \$1.68 billion, \$625 million in GDP, employ more than 6,800 BC workers, and generate \$95 million in annual tax revenues.
- By 2030, if greater certainty was achieved for salmon farmers, total economic output generated by farmed salmon was expected to reach \$2.9 billion per year in BC, creating over \$1 billion in GDP in the province, with almost 11,600 jobs paying \$630 million in wages, and generate over \$150 million in tax revenues per year.

- By 2050, total economic output was expected to reach just under \$4 billion per year, generating more than \$1.4 billion in GDP per year, with almost 15,800 jobs earning \$895 million in wages, and contributing \$220 million in tax revenues to government coffers per year.

However, the closure of the Discovery Islands farms has placed an immediate chill on these investment plans, which will have a dramatic and long-term effect on the economic benefits from salmon farming as well as the role that salmon farming could have played in the economic recovery of BC. Figure 1 shows that the decision eliminates not only the annual economic benefits generated across BC by salmon farming operations in the Discovery Islands, but all the future economic benefits that would have accrued from the planned investments to expand salmon farming production across BC. The resulting losses include:

- By the end of 2022, \$600 million less economic output across the province and over 2,600 fewer jobs for BC workers than projected before the DI decision.  
By the end of 2030, \$1.65 billion less economic output in BC and 6,760 fewer jobs than projected before the DI decision.
- By 2050, more than \$2.7 billion less economic output and 10,950 fewer jobs across BC than projected prior to the DI decision.



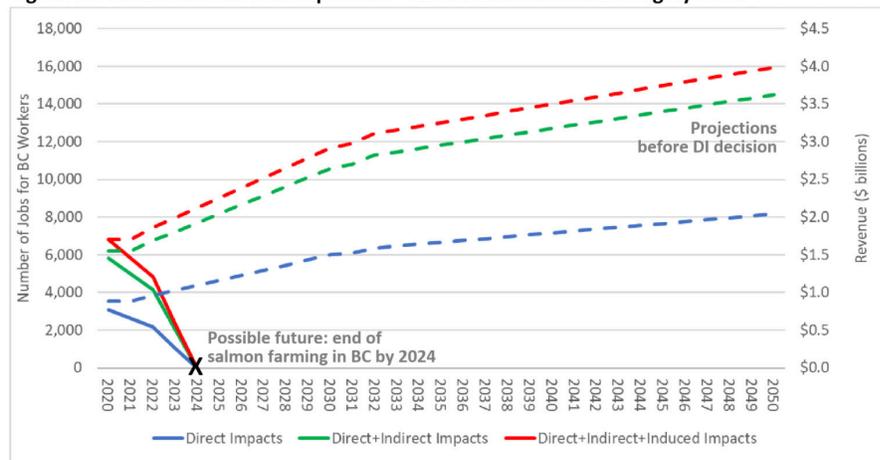
# POSSIBLE FUTURE CONSEQUENCES: PRECEDENT ESTABLISHED BY THIS DECISION

End of BC salmon farming by 2024? The manner in which the Discovery Islands decision was made has raised questions regarding the engagement process and how the decision was achieved given the lack of engagement with affected communities, organizations, businesses and local elected officials. BC salmon farming companies, employees, families and communities whose livelihoods depend on salmon farming face an uncertain future and many questions regarding how and when site license and tenure renewals will be made in other regions moving forward:

- On what basis are federal licensing decisions on salmon farming in BC being made?
- What factors are considered in those federal decisions, and how much weight is given to each factor?
- Who has the right to say “no” to salmon farms? And on what grounds are objections permissible? Recent peer-reviewed science led by DFO has shown that salmon farms pose a minimal threat to wild salmon, so are concerns over impacts to wild salmon still legitimate grounds for the closure of farms?
- What parties, groups and organizations have been involved in the decision-making process to this point?
- What consultative processes are being followed to ensure that open, transparent and informed decision-making is taking place?
- When will industry be given the opportunity to speak on behalf of its operations, and employees?
- Who makes the final decision, and do they understand fully the consequences of their decision on families and communities in BC?

In the absence of clear answers to those questions, the implication of the Discovery Islands decision is that there may be no objective way for salmon farming companies to meet the requirements for license renewal in BC. This means the industry faces the prospect that similar decisions on all remaining site licenses could occur when they are up for renewal in June 2022. If this were to be the case, this would result in complete termination of all salmon operations in BC by 2024, as outlined in Figure 2 below.

**Figure 2: Possible Future Consequences – End of BC Salmon Farming by 2024**



## IMPACTS OF THE DECISION BEYOND BC

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**Spillover Impacts in Atlantic Canada?** While the Discovery Islands decision directly affects salmon farming in BC, it has created a great deal of uncertainty and concern for salmon farming operations in Atlantic Canada as well. Salmon farming companies operating in Atlantic Canada have committed to significant investment and expansion of their operations (ACFFA, 2021), and some of those plans may now be at risk due to the unpredictable nature of the Minister's decisions affecting the salmon farming sector in Canada.

**Cease to Invest in Canada?** The salmon farming companies operating 19 sites in the Discovery Islands are owned by large multinational, publicly traded companies. These companies have issued "cease to invest" direction to operations in BC, as Canada is no longer seen as having a stable investment climate for salmon farming compared to other countries competing for investment dollars. The decision may also have spill-over effects on investments by these multinationals in other sectors in Canada.



## OPTIONS TO REDUCE/OFFSET DAMAGES

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Companies were asked to provide input on if and how the financial damages they face could be moderated. We clearly heard during the research for this report concerns about the lack of consultation by the federal government leading up to their decision. Companies believed that greater engagement by the federal government with the industry would have led to a more informed decision that could have been implemented in a manner to better manage and mitigate the negative impacts on all affected parties, or at least established a fairer, more realistic transition plan. Similar comments were made by other parties with an interest in the industry – locally elected officials, the province, local First Nations, and local businesses as this report was being prepared. Clearly, the federal government may want to review their process, and strongly consider revisiting the decision.

Failing such reconsideration, we heard that if the time period for closure of the Discovery Islands region was extended from the current 18 month deadline to about 54 months to allow juvenile salmon and eggs to complete their lifecycle, and companies were permitted to stock the farms as planned with juveniles already in their systems, it would allow salmon farmers to avoid mass culling and to fully decommission sites in an orderly manner. While this doesn't change the ultimate outcome within the Discovery Islands, it helps to make the situation more manageable, and mitigates some of the short-term damages.

Overall, a 54-month timeframe would provide sufficient time to forestall the impending devastation for salmon farming companies, suppliers, Indigenous partners, employees and families by:

- Allowing completion of the current production cycle, thereby eliminating the need to euthanize 10.7 million fish. This would require allowing some young fish to be transferred from hatcheries to sites in the Discovery Islands over the next 4-6 months.
- Reduce losses from the destruction of fish by over \$170 million, and reduce decommissioning costs to the lower estimates shown in Table 5, possibly saving another \$5-6 million.
- Support coastal communities in mitigating what is presently an abrupt economic disaster, and provide a less disruptive transition for employees and their families.
- Provide opportunity for an orderly withdrawal that is respectful of all parties.

## APPENDIX A: METHODOLOGY

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For the purposes of this assessment and in the absence of full details about the government's plan at this time, we have adopted a literal interpretation of Minister Jordan's announcement, that all net pen operations in the Discovery Islands would be closed by June 30, 2022. Implementation of such a plan has the following implications:

1. All salmon would be removed from net pen sites on or before June 30, 2022. Decommissioning/ closure activities (removal of structures, moorings, equipment, etc.) would take place within the 18-month period prescribed in the Minister's decision. We note a couple of practical problems with this assumption: there is not enough capacity within BC to remove all the pens in the Discovery Islands within 18 months, and a valid site license must be in place to remove net pens and site infrastructure. If no licenses are to be renewed after June 30th, 2022, then it may be impossible to complete the work required to decommission all Discovery Islands sites.
2. Supporting activities for Discovery Islands operations (e.g., hatcheries, processing plants) would be phased-out as farm sites are closed over 18 months. Equipment, vessels and other assets will be sold off as operations wind-down.
3. Closure costs could also include penalties for cancelling contracts (e.g., vessel leases, maintenance contracts).
4. Companies would cancel some or all planned future investments and capital expenditures and cease funding for some community programs, scientific research, and indigenous partnerships (as indicated in their response to our questionnaire).
5. Some ripple effects on aquaculture investments are also anticipated in Atlantic Canada, but are not quantified in this report.

BCSFA salmon farming members operating in the Discovery Islands completed a brief questionnaire seeking information about the implications of the Discovery Islands decision on their operations. RIAS Inc. also used a number of additional sources of information to validate baseline financial data and direct economic impact information provided by BCSFA member companies, and to estimate the broader indirect and induced impacts on the BC economy. Additional sources of data included:

- Annual Reports for salmon companies operating in BC
- BC Salmon Farmers Association (BCSFA). Raising Opportunity – How Farm-Raised Salmon Can Lead BC's Post-COVID Recovery, November 2020.
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