

Balancing Offshore Groundfish and Shrimp Harvesting with Oil and Gas Exploration Drilling in the Offshore Areas of the Grand Banks and Newfoundland Shelves

**Submission to the Regional Environmental Assessment
Committee**

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The Canadian Association of Prawn Producers

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Overview:

The Atlantic Groundfish Council (AGC) represents the >100' offshore groundfish sector in Atlantic Canada. With access to over 40,000 mt of quota annually, member companies are active in all aspects of harvesting, processing and marketing of groundfish.

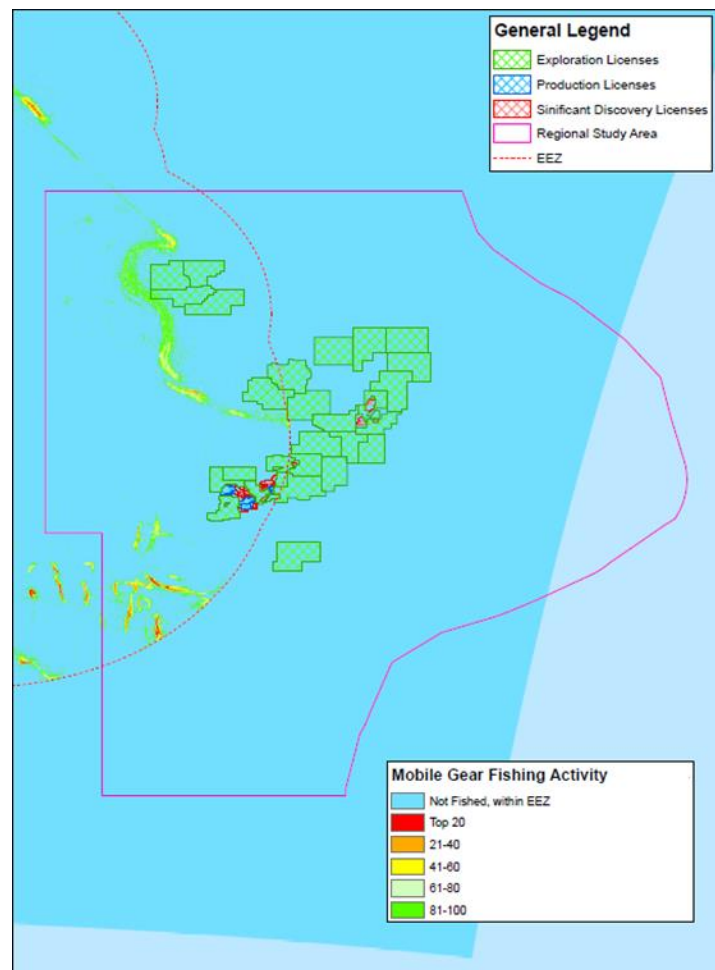
In the NL region, our sector has been distinct and active decades before the expansion of the Exclusive Economic Zone in 1977. After large foreign vessels were disallowed from harvesting inside the 200-mile limit, the domestic far-water fleet was encouraged and supported by the Federal government. Between 1977 and 1992, the sector experienced a period of profound growth with hundreds of vessels harvesting in the offshore areas stretching from the US border to the Arctic Ocean. Since the ecosystem shifts of the early 1990s, the fleet has been significantly reduced to a handful of vessels harvesting the Grand Banks and shelf break areas of Newfoundland and Labrador.

As long-term traditional fishery participants, our members have watched the steady expansion of oil and gas activities in areas they have sustainably harvested from, year after year. With the anticipated expansion of exploration activity due to the delineation of important oil and gas reserves, we are seeking to ensue that existing and important traditional fisheries are able to continue unabated while also providing certainty for oil and gas operators that they too can operate free of concern of impacts to our sector in the NL region.

The current fishery targets a wide variety of flatfish and finfish in the area encompassed by the REA, including Greenland Halibut, Atlantic Redfish, Witch Flounder and Yellowtail Flounder with bycatch of other species including Atlantic Cod and American Plaice.

Many of the fisheries above are included in certificates for sustainability under the Marine Stewardship Council which is testament both to the sustainable management and positive future of these resources.

To understand the impact that the recent oil and gas interest in the area has had, we ask that you refer to the figure to the right. This map details the most recent, short-term snapshot of the Canadian mobile gear groundfish footprint with the exclusive economic zone (200-mile limit) overlaid with the oil and gas exploration, significant discovery and production license issued by the CNLOPB. We are clearly sharing the ocean and must find methods to minimize



overlap as our traditional fishing areas are experiencing increasing pressure from exploration and extractive activities.

Finally, while the REA's area of focus is at the southern end of the range of the Northern Shrimp resource, this area does support a valuable fishery for Northern Shrimp, the impairment or loss of which under the Government management regime cannot be offset or compensated by catches farther north. In this regard, the issues, the concerns and the proposed 'way forward' that are expressed in this document, are also applicable to, shared by and endorsed by the Canadian Association of Prawn Producers (CAPP), representing 10 offshore shrimp licenses in Atlantic Canada. Therefore, this document also includes catch information associated with both fleets.

Defining Our Concerns:

Before defining our concerns, we must clarify some misconceptions about wild fish harvesting:

Fish are not everywhere!

It is often assumed that that if an activity comes into the area where fishing is occurring, that harvesters can simply relocate to other areas and continue to harvest the fish. This is false. Fishing, like all resource-based activities, has its success based on a variety of factors all relating to viability. Productive fishing areas are characterized by high catch rates (which minimize habitat impacts), low bycatch and safe vessel operation. Harvesters cannot fish in areas where catch rates are low, as they will be forced to stop harvesting activities once bycatch levels achieve a certain threshold. Some areas are only productive for short periods of time when fish are concentrated due to migrations or other processes. These are unique opportunities that once missed, cannot be regained until the next year.

At the same time, the very layout of the bottom of the ocean often determine where harvesting activities can be conducted. Highly heterogenous environments (i.e. hard vertical drops) cannot be harvested without incurring significant gear and habitat damage. Harvesters focus activity on resilient bottom types that can be fished without gear damage and loss.

The ideal combination of catch rates, low bycatch and suitable bottom type are not ubiquitous across the ocean landscape and only appear in discrete areas. Thus, any forced displacement of activity undermines the very viability and sustainability of the industry.

Productive fishing areas have been productive for decades:

The areas fished today are very similar to those fished decades ago. This long-standing, traditional fishing footprint has been honed by the expertise and experience of the sector. This is a testament to the stability of those regions as sustainable fisheries and highlights our need for continued access.

The Fishing Footprint of the Last Decade is Not Necessarily the Future:

Over the last decade, we have observed a slow but consistent recovery in many groundfish stocks that have been under moratorium since the early 1990s. As a result of this growth, stocks are expanding to return to the traditionally fished grounds in the REA area, including stocks such as 3LN Redfish and 3NO Witch Flounder that have exited moratorium and are now active fisheries. Additionally, other stocks in the area continue to recover (3LNO American Plaice, 2+3K Redfish, 2J3KL Witch Flounder and 2J3KL Cod) and will lead to re-openings in the near future. The net result is that the footprint observed over the last

decade is restricted relative to that expected in the future. To understand how the future fishery footprint may look, we rely on our traditional fishery patterns that have held true on newly re-opened stocks.

Markets are Sensitive to Reputation:

While product quality is a very important component to obtaining maximum value for NL fishery product, reputation is also key. The 'Clean North Atlantic' moniker has been a valuable tool in providing market access. Customers are highly sensitive and can be discouraged from purchasing product that they deem is harvested in a fashion inconsistent with their core beliefs (i.e. sustainably) or where some event has provided them a perception of a tainted product. This can mean that products will be no longer be accepted by markets even if there has been no tangible change in the product itself.

With the above understanding, we can relate our concerns of oil and gas exploration activity into key areas:

- *Temporary loss of access to productive fishing areas*
- *Permanent loss of access to productive fishing areas*
- *Reduced productivity of traditionally used fishing areas*
- *Loss of markets and opportunity due to catastrophic failure*

Temporary loss of access to productive fishing areas:

Similar to offshore shrimp and groundfish harvesting activities, oil and gas exploration requires specific weather and sea-states to be conducted safely. Each drilling program can take on the order of weeks to months, depending on the location, target depth, logistic challenges and required remediation. During the drilling period, exclusion zones are established to protect infrastructure from damage caused by incursions of other vessels. This means that the seafood harvesting sector is also unable to utilize these areas and must be displaced to other areas. While this may seem minor, small losses of fishing area due to relatively short-term local closures have led to the short-term abandonment of annual harvesting plans, leaving thousands of tonnes of uncaught quota in the water at a significant lost value to the Canadian economy.

Permanent loss of access to productive fishing areas:

While the likelihood of an exploration well being transitioned into a full-production site may be small, it still exists. With the establishment of each producing wellhead and associated infrastructure, exclusion zones are established which prevent harvesting activity from being conducted. Our experience in NL offshore waters demonstrate that this exclusion zone can vary from hundreds of meters to kilometers – depending on the project and the operator. Given the highly restrictive fishing footprint that our sector operates within and the need to restrict activities to bottom-configurations that allow the harvesting gear to be used successfully without adverse habitat impacts, the loss of even a small area (i.e. < 1 nm²) can disrupt harvesting activities by disrupting tows through key habitat areas.

This is especially pertinent for stocks that are at the cusp of emerging from moratorium. Where the fishing industry has supported the rebuilding of these stocks for decades, it would highly unfortunate if the reward for their stewardship and conservation-oriented approach was to be barred from the very areas that they have historically relied upon just as the stocks recover.

Reduced Productivity of Traditionally Used Fishing Areas:

The cycle of exploratory drilling includes site preparation, drilling, deposition of cuttings and site abandonment. With each step, the local area is disrupted and some deposition of foreign materials are likely (i.e. drill cuttings, drilling mud, sedimentation). These disturbances have been acknowledged to result in local changes in biodiversity. It is without a doubt that intensive exploration resulting in a large number of wells in a local area will magnify these impacts, leading to a shift in the local biodiversity and avoidance by commercially important species. These shifts may well result in lowered fishery productivity in traditionally productive areas.

Loss of markets and opportunity due to catastrophic failure

While we accept that the risk of catastrophic failure is low, we have unfortunately seen multiple instances in the last several years. Specific to exploratory drilling, we have seen 2,000 m of riser fall to the bottom of the ocean and not be retrieved – this alone would have been sufficient to make an area unfishable for mobile gear. Were such an incident within one of our actively fished areas, this would have been a significant and permanent disruption of opportunity.

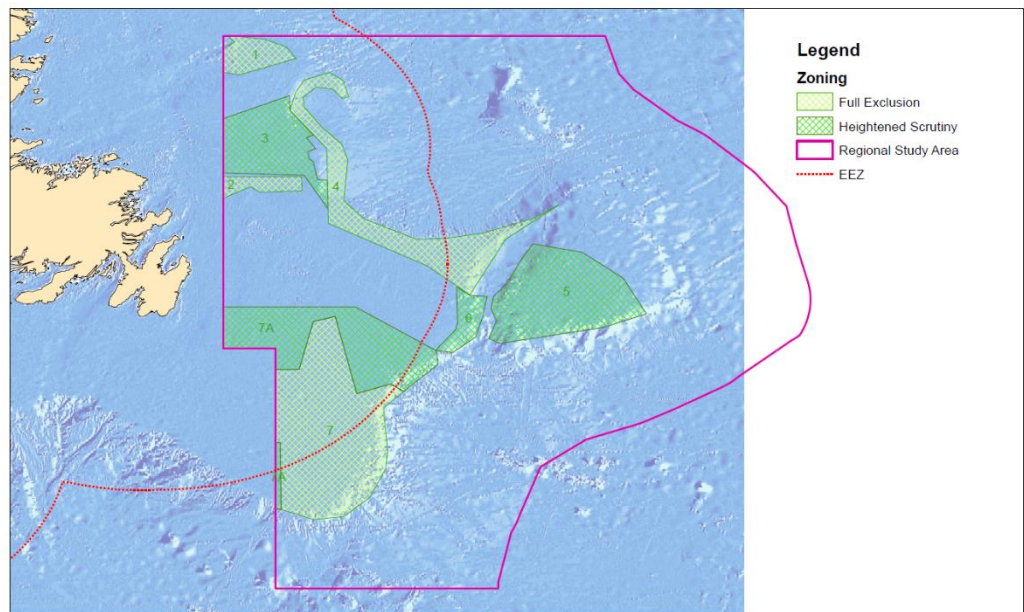
We have also seen releases of drilling mud in exploratory programs, and the uncontrolled release of hydrocarbons as a result of failures in producing platforms. With each incident, comes questions from across the value chain of customers, sales teams, processors, certification bodies and harvesters on the integrity of our products fished within the same or neighbouring management zones. With each incident, our reputation of ‘Clean North Atlantic Seafood’ becomes further tarnished and we are experience greater challenges securing and maintaining our market shares in premium markets.

Proposed Approach:

We propose that the REA include spatial management approaches which will provide security to all marine users by providing a roadmap to exploration and future development activities. These management zones are based on the restricted spatial footprint both currently and historically for our sector and will incorporate

scheduled reviews to refine the management areas based on species recovery and shifting distributions of the fishery in relation to climate change.

An overview of the spatial footprint of the proposed zones is presented to the right.



Delineation of Zones:

We are proposing that two management approaches be applied to these zones. As a general description, Important and active fishing areas would be considered full exclusion zones with no drilling activity permitted while areas of lesser fishing activity with expanding stock ranges would be considered heightened scrutiny, requiring project and site-specific discussions and mitigation to be applied.

Zones were delineated based both upon the current and historical footprint of the fishery in the REA study area. Based on confidential spatial information held by fishery operators that have records dating back to 1993, we have created boundaries that accommodate the current catches of non-moratorium species, as well as areas that have historically hosted catches of fish stocks poised to exit moratorium in the next several years. Readers are encouraged to review DFO CSAS Res. Doc. 2018/015 and NAFO FC 09/20 for graphical representations of the recent fishing footprints for the area.

The REA Committee must understand that these records are incomplete because of changing reporting requirements. For this reason, the values presented should be considered conservative.

For context, we have observed over \$ 55 million annually of northern shrimp and groundfish landed by our sectors in the REA area in the recent past. This contribution is sustained year over year and provides valuable employment not only to the vessel operators, but the crews, shore-based businesses and secondary industries supporting the sector. Since 1993, this area has contributed almost \$ 1.5 billion in value (at today's values) of groundfish and Northern Shrimp to the Newfoundland and Labrador economy. The zones that we propose will ensure that over 95% of the area that produced this value will remain either outside of oil and gas exploratory activities or within zones allowing more extensive discussions between the two sectors to ensure that harvesting opportunities are not lost. This approach will help to minimize the risk of lost value and needed compensation in the event of direct or indirect losses to the sector arising from unintended impacts to our traditional fishing areas.

The tables on the following page denote what percentage of catch derived from the REA study area was taken within the defined polygons over the study period. A brief summary of each zone is also provided below.

Zone 1:

Zone 1 is dominated by an extensive history of fishing Northern Shrimp. Both currently and historically, this has been an incredibly valuable area to all sectors (including inshore fishers that are not included in this analysis). While this stock has been depressed in recent years, it is now again showing signs of expansion which indicates a positive future for the stock.

The shape being proposed does protect the majority of the historical, current and expected future footprint of the fishery.

Zone 2:

This zone was defined as important for two reasons – the current footprint of the Northern Shrimp fishery and the impending opening of 2+3K redfish.

The 2+3K redfish stock entered moratorium in the in the early 1990s but hosted annual catches of well over 20,000 mt annually prior to, with the majority of those catches taken in Zone 2. The stock itself has shown significant growth and is expected to again become a commercial fishery in the next 5-10 years.

We are concerned that the future growth of this fishery could be curtailed by an inability to access harvestable areas because of competing oil and gas exploration interests.

1993 to 2009										
Species	Stock Area	Percent of Total Stock Management Zone Landings taken in the REA area in each Proposed Key Offshore Fishing Area								Inside REA / Not Zoned
		1	2	3	4	5	6	7	7A	
		Exclusion	Exclusion	Heightened Scrutiny	Exclusion	Heightened Scrutiny	Heightened Scrutiny	Exclusion	Heightened Scrutiny	
American Plaice	3LNO	0.0%	0.0%	0.0%	< 10 %	0.0%	0.0%	> 90 %	< 10 %	< 10 %
Yellowtail Flounder	3LNO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	> 90 %	< 10 %	0.0%
Redfish	3LN	0.0%	0.0%	< 10 %	70 - 80 %	0.0%	0.0%	10 - 20%	< 10 %	< 10 %
Redfish	2+3K	0.0%	0.0%	< 10 %	> 90 %	0.0%	0.0%	< 10 %	0.0%	< 10 %
Witch Flounder	2J3KL	0.0%	0.0%	< 10 %	> 90 %	0.0%	0.0%	< 10 %	< 10 %	< 10 %
Witch Flounder	3NO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	> 90 %	< 10 %	0.0%
Atlantic Cod	3NO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	> 90 %	< 10 %	0.0%
Atlantic Cod	2J3KL	< 10 %	0.0%	< 10 %	< 10 %	0.0%	< 10 %	60 - 70 %	30 - 40 %	< 10 %
Greenland Halibut	2J3KLMNO	0.0%	0.0%	< 10 %	> 90 %	0.0%	0.0%	< 10 %	0.0%	< 10 %
Northern Shrimp	SFA 6, 7 and 3M	40 - 50 %	< 10 %	< 10 %	40 - 50 %	< 10 %	0.0%	0.0%	0.0%	< 10 %
2010 to 2014										
Species	Stock Area	Percent of Total Stock Management Zone Landings taken in the REA area in each Proposed Key Offshore Fishing Area								Inside REA / Not Zoned
		1	2	3	4	5	6	7	7A	
		Exclusion	Exclusion	Heightened Scrutiny	Exclusion	Heightened Scrutiny	Heightened Scrutiny	Exclusion	Heightened Scrutiny	
American Plaice	3LNO	0.0%	0.0%	0.0%	10 - 20%	0.0%	< 10 %	80 - 90 %	0.0%	< 10 %
Yellowtail Flounder	3LNO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Redfish	3LN	0.0%	0.0%	0.0%	> 90 %	0.0%	0.0%	0.0%	0.0%	0.0%
Redfish	2+3K	0.0%	0.0%	0.0%	> 90 %	0.0%	0.0%	0.0%	0.0%	< 10 %
Witch Flounder	2J3KL	0.0%	0.0%	< 10 %	> 90 %	0.0%	0.0%	0.0%	0.0%	< 10 %
Witch Flounder	3NO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	> 90 %	0.0%	0.0%
Atlantic Cod	3NO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	> 90 %	0.0%	0.0%
Atlantic Cod	2J3KL	0.0%	0.0%	0.0%	70 - 80 %	0.0%	0.0%	20 - 30%	0.0%	< 10 %
Greenland Halibut	2J3KLMNO	0.0%	0.0%	0.0%	> 90 %	< 10 %	< 10 %	0.0%	0.0%	< 10 %
Northern Shrimp	SFA 6 and 7	50 - 60 %	< 10 %	< 10 %	10 - 20%	0.0%	0.0%	< 10 %	< 10 %	20 - 30%
2015 - 2019										
Species	Stock Area	Percent of Total Stock Management Zone Landings taken in the REA area in each Proposed Key Offshore Fishing Area								Inside REA / Not Zoned
		1	2	3	4	5	6	7	7A	
		Exclusion	Exclusion	Heightened Scrutiny	Exclusion	Heightened Scrutiny	Heightened Scrutiny	Exclusion	Heightened Scrutiny	
American Plaice	3LNO	0.0%	0.0%	0.0%	10 - 20%	0.0%	0.0%	80 - 90 %	0.0%	< 10 %
Yellowtail Flounder	3LNO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	> 90 %	0.0%	0.0%
Redfish	3LN	0.0%	0.0%	0.0%	> 90 %	0.0%	< 10 %	0.0%	0.0%	< 10 %
Redfish	2+3K	0.0%	0.0%	10 - 20%	80 - 90 %	0.0%	0.0%	0.0%	0.0%	< 10 %
Witch Flounder	2J3KL	0.0%	0.0%	< 10 %	> 90 %	0.0%	0.0%	0.0%	0.0%	< 10 %
Witch Flounder	3NO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	> 90 %	< 10 %	0.0%
Atlantic Cod	3NO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	> 90 %	0.0%	0.0%
Atlantic Cod	2J3KL	0.0%	0.0%	< 10 %	> 90 %	0.0%	< 10 %	< 10 %	0.0%	0.0%
Greenland Halibut	2J3KLMNO	0.0%	0.0%	0.0%	> 90 %	0.0%	0.0%	0.0%	0.0%	< 10 %
Northern Shrimp	SFA 6 and 7	60 - 70 %	0.0%	< 10 %	< 10 %	0.0%	0.0%	0.0%	< 10 %	30 - 40 %

Zone 3:

This zone is focused in the NAFO area of 3K. The value of this zone is based on fisheries currently under moratorium but experiencing sufficient growth to be considered valuable in the near-future because of a likely re-opening. In the past, this area hosted large catches of 2J3KL cod (northern cod) that supported the operation of shore-based processing operations. Also active in this area was 2+3K redfish, although this was not as important an area as Zone 2. Given the uncertainty in the growth of the northern cod stock and the lesser importance of the area for 2+3K redfish, we have deemed this area to be of heightened scrutiny for the next five-year period, pending a review.

Zone 4:

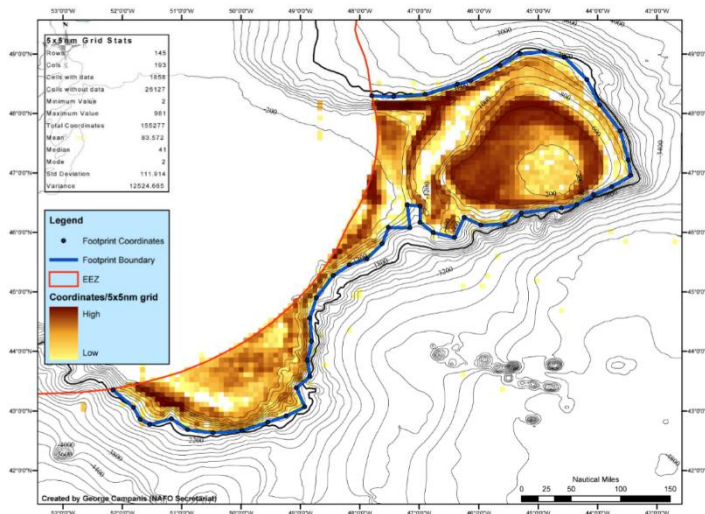
Zone 4 is presently and historically a very high value fishing area. The current fishery is focused on Greenland Halibut and 3LN redfish with Witch Flounder and 2+3K redfish expected to play an expanding role into the future. Unique to this zone, a marine refuge was introduced along the Eastern Edge (NL Northeast Slopes) which effectively curtailed mobile gear harvesting activity and led to a loss of approximately 5% of our landings. Any further losses of effective fishing area will have profound economic impacts unacceptable to the sector.

Zones 5 and 6:

Zones 5 and 6 contains the extensively fished footprint in the NAFO regulatory area. The Canadian fishery has not been as active in this region in the recent past, largely owing to a relocation of effort into waters closer to NL. In the historical past, this hosted a valuable Northern Shrimp, American Plaice and redfish fishery which is not reflected in the current valuation tables.

The effort footprint by all NAFO contracting parties is presented to the left (as derived from NAFO SC 09/20):

Given the productive nature of this area to current and historic fisheries, we feel that the assessment of this area as Heightened Scrutiny is appropriate.



Zone 7:

Zone 7 encompasses valuable flatfish areas for Yellowtail flounder, Witch flounder and American Plaice. This area is considered very important fishing grounds, accounting for the majority of Yellowtail Flounder catches. Although American Plaice is currently rebuilding, Yellowtail Flounder remains at an incredibly healthy level with anticipated high productivity into the future. Our sector considers this to encompass highly important fishing areas for a healthy resource.

Zone 7A:

Zone 7A was an area focused on for American Plaice. Though the stock is currently in moratorium, it is steadily rebuilding and is anticipated to re-open in the near future. Hosting historic catches over 50,000 mt annually, we consider these grounds to hold a high potential for the future based on past fishing practices and modern survey distributions of plaice. Given the uncertainty on the growth of the stock in the near future, we believe that this area should be considered special given its future potential and drilling activities should incorporate a heightened scrutiny to ensure future access and productivity is not curtailed by the direct and indirect effects of oil and gas exploration.

Summary:

The proposed key offshore fishing areas represent core fishing areas past, present, and what can be reasonably expected for the near future. For this reason, we feel that these areas should be treated differently than other areas of the ocean as it relates to oil and gas exploration.

Timing of the Fishery:

As mentioned earlier, the timing of the fishery in each zone will influence potential overlap of activities between the oil and gas and offshore harvesting sector. Below is a general schematic of fishing activity by species from both the historic (pre-moratorium and pre-2009) and current (2010 to present) period:

Species	Stock Area	Historic Timing of the Fishery (Q1, Q2, Q3, Q4)				2010 to 2019 Timing of the Fishery (Q1, Q2, Q3, Q4)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
American Plaice	3LNO	Y	Y	Y	Y	Bycatch			
Yellowtail Flounder	3LNO	Y	Y	Y	Y	Y	Y	Y	Y
Redfish	3LN	Y	Y	Y	Y	Y	Y	Y	Y
Redfish	2+3K	Y	Y	Y	Y	Bycatch			
Witch Flounder	2J3KL	Y	Y			Bycatch			
Witch Flounder	3NO	Y	Y			Y	Y		
Atlantic Cod	3NO	Y	Y		Y	Bycatch			
Atlantic Cod	2J3KL	Y	Y		Y	Bycatch			
Greenland Halibut	2J3KLMNO	Y	Y	Y	Y	Y	Y		
Northern Shrimp	SFA 6, 7 and 3M	Y	Y		Y	Y	Y		Y

The intensity of the activity in each of the Key Offshore Fishery areas are dictated by the degree of total catch encountered and the timing. For example, Zone 4 will be very active in the first two quarters for Greenland Halibut, while zones 1 and 4 will be active for Northern Shrimp throughout the year.

Zonal Management Approaches:

Exclusion Zones:

Exclusion Zones are areas with significant and ongoing harvesting activity for valuable species not currently in moratorium. These are areas fished today with the expectation that fishing activity will continue into the foreseeable future. Areas have been productive both currently and historically.

These areas would not be eligible for exploration drilling because of the spatial interaction with active and economically important fisheries. It is our belief that even temporal closures in these zones would be insufficient to protect our interests because of the potential longer-term impacts of producing sites, spills, exclusionary zones and catastrophic failures.

In these zones, non-contact resource delineation exploration (i.e. seismic) would be permitted on a case-by-case basis with input from representatives of the fishing industry to ensure exploration does not interfere with ongoing harvesting operations.

We believe that the proposed shapes are conservative in their design and will provide certainty to all future participants.

Heightened Scrutiny Zones:

Heightened Scrutiny Zones represent areas with extensive catches of fisheries now under moratorium but poised to soon re-open and/or where open fisheries are not as spatially concentrated as within full exclusion zones. Broadscale banning of activity in these areas was deemed inappropriate because fine-scale spatial management could be applied in conjunction with cooperating oil and gas exploration companies to appropriately define when and how activities could be configured on the landscape.

Exploration activity through non-invasive methods (i.e. seismic) would be permitted with enhanced discussion with the fishing industry to minimize any temporal/spatial overlap.

Management in these zones would include:

- Detailed discussion on siting drilling operations to ensure productive fishery areas are avoided
- Enhanced mitigation/site remediation to ensure that infrastructure does not remain on the seabed which could prevent fishing activities
- Minimize exclusionary zones during drilling operations to ensure that existing fishing operations are not hindered
- Heightened environmental monitoring during operations
- Drilling programs would be temporally and spatially situated to avoid overlap with active fishing operations or likely future fishing operations

5-Year Review of Key Offshore Fishing Areas:

We understand that the ocean is a highly dynamic environment and this must be incorporated into the regional assessment. Changing oceans also mean that fish distributions may change and the fishing pattern of today may not be the same as tomorrow, nor will the footprint of past fisheries be immutable into the future.

For these reasons, we suggest that a five-year term for review/revision of the management zones would be appropriate. We would see this review being conducted with representatives from the oil and gas and offshore groundfish industry with support from DFO, CEAA and the CNLOPB. We would expect those discussions to include:

- 5-year expectations of stock trajectories for both current and re-opening fisheries
- Assessment of fishing patterns of the last five years and open discussion on the appropriateness of the Management Zone boundaries
- Assessment of oil and gas expectations for the coming five year operational and drilling cycle
- Consideration of boundaries based on expectations by both industries

Conclusions:

We would like to thank the REA Committee for taking the time to review this submission and encourage future discussion on this important topic.