# a moderate livelihood...

## a sea-image-sound performance

composed and recorded in Mi'kma'ki / Nova Scotia
by Pat McMaster - November, 2020

# Program Notes

This composition was conceived against the backdrop of escalating violence from non-indigenous commercial fishers towards Sipekne’katik First Nation fishers asserting their treaty rights protecting their right to hunt, fish and gather for the purposes of earning a moderate livelihood.

The image in this slide is that of a lobster pound in Middle West Pubnico which housed the catch of indigenous fishers.

It was set ablaze on October 17th, 2020.

Some non-indigenous commercial fishers have expressed the belief that self-regulated fishing outside the commercial season threatens the already precarious state of future fish stock for all citizens of Mi'kma'ki / Nova Scotia.[1]

# Elements at play

**Conceptual**

Using photographs and sound recorded from the Bay of Fundy, which has developed into a site of conflict over the past few months.

Giving a symbolic voice to the inhabitants of the seas which constitute the non-renewable resource at the heart of this clash.

Developing this as a performance piece, rather than an installation or fixed media, allowing for improvisation and a tactile interaction.

Acknowledging and interpreting this conflict as a means of processing its emotional impact.

**Technological**

Developing a fluency in Max/MSP + Jitter.

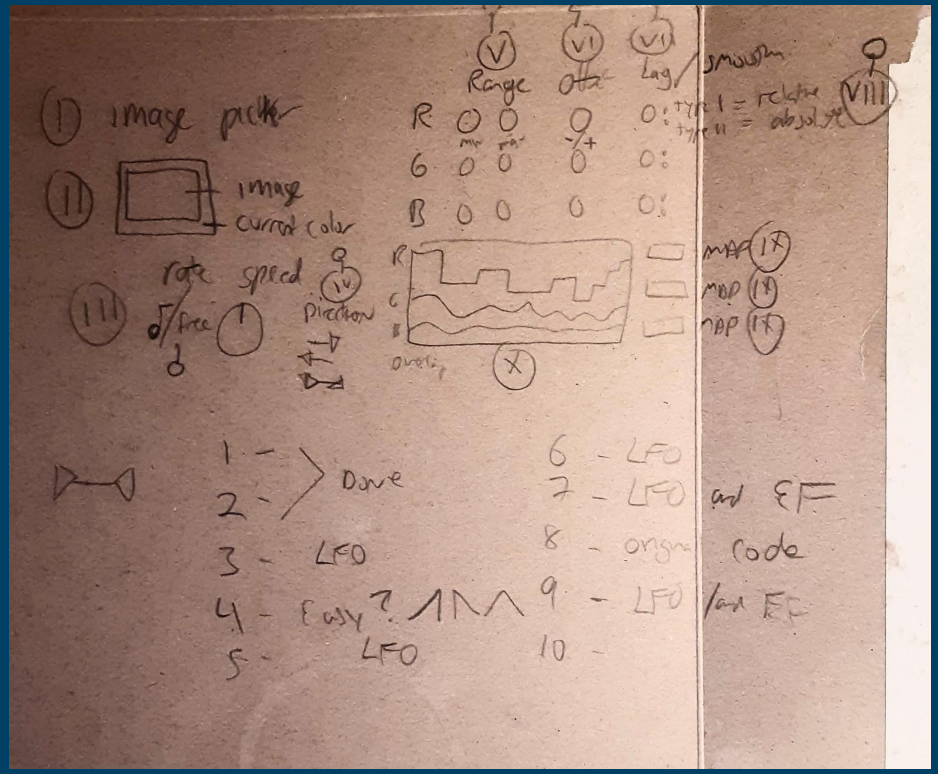
Creating a working model for what I hope will become a Max4Live device.

Continuing to explore my practice of using hydrophones and environmental sounds.

Pushing forward the idea of using imagery and non-sound media as modulation sources and developing tools for sonification.

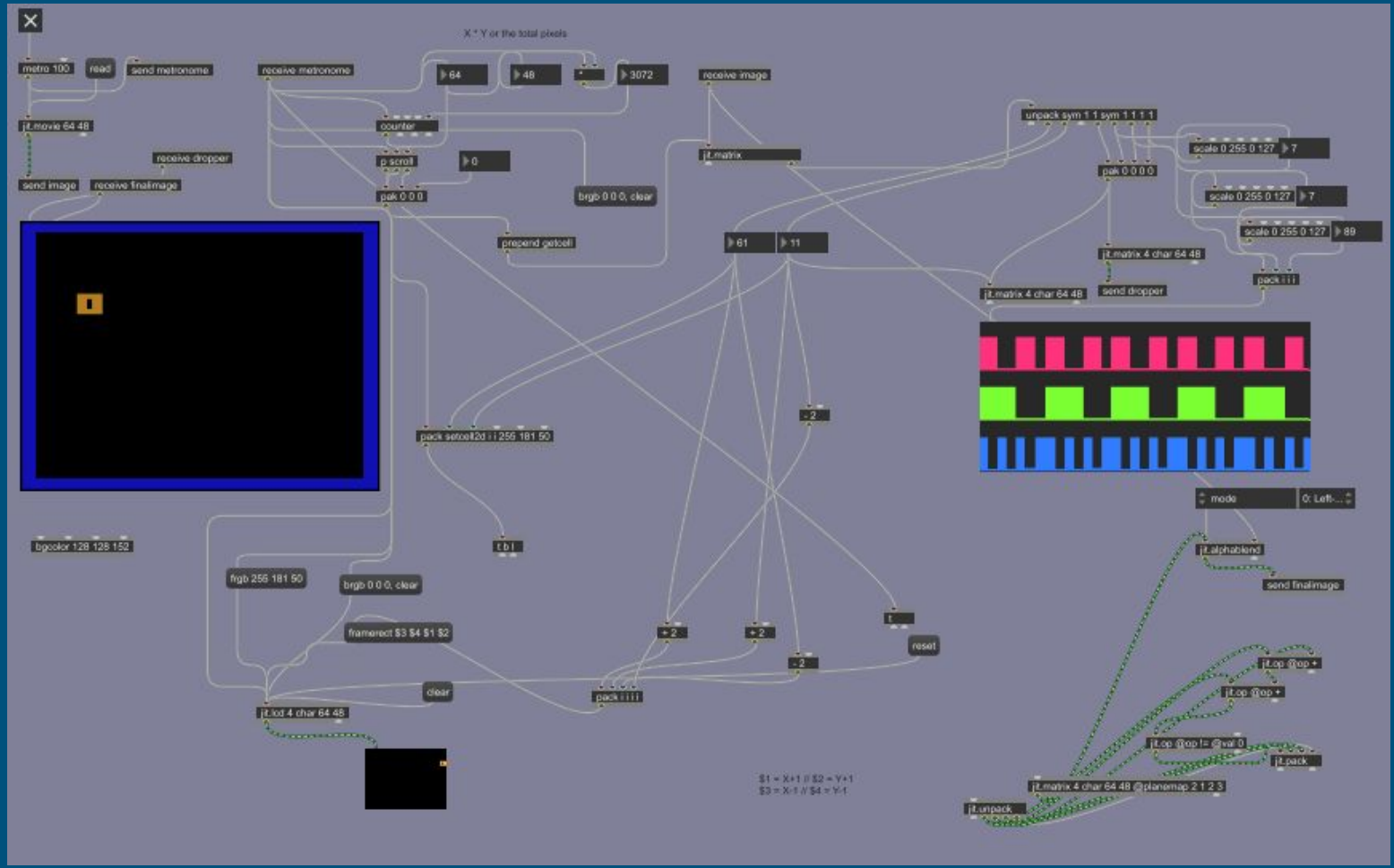
# Sound from image

Using Max/MSP & Jitter to extract RGB values from images and videos and convert that data into usable MIDI data / control voltage.

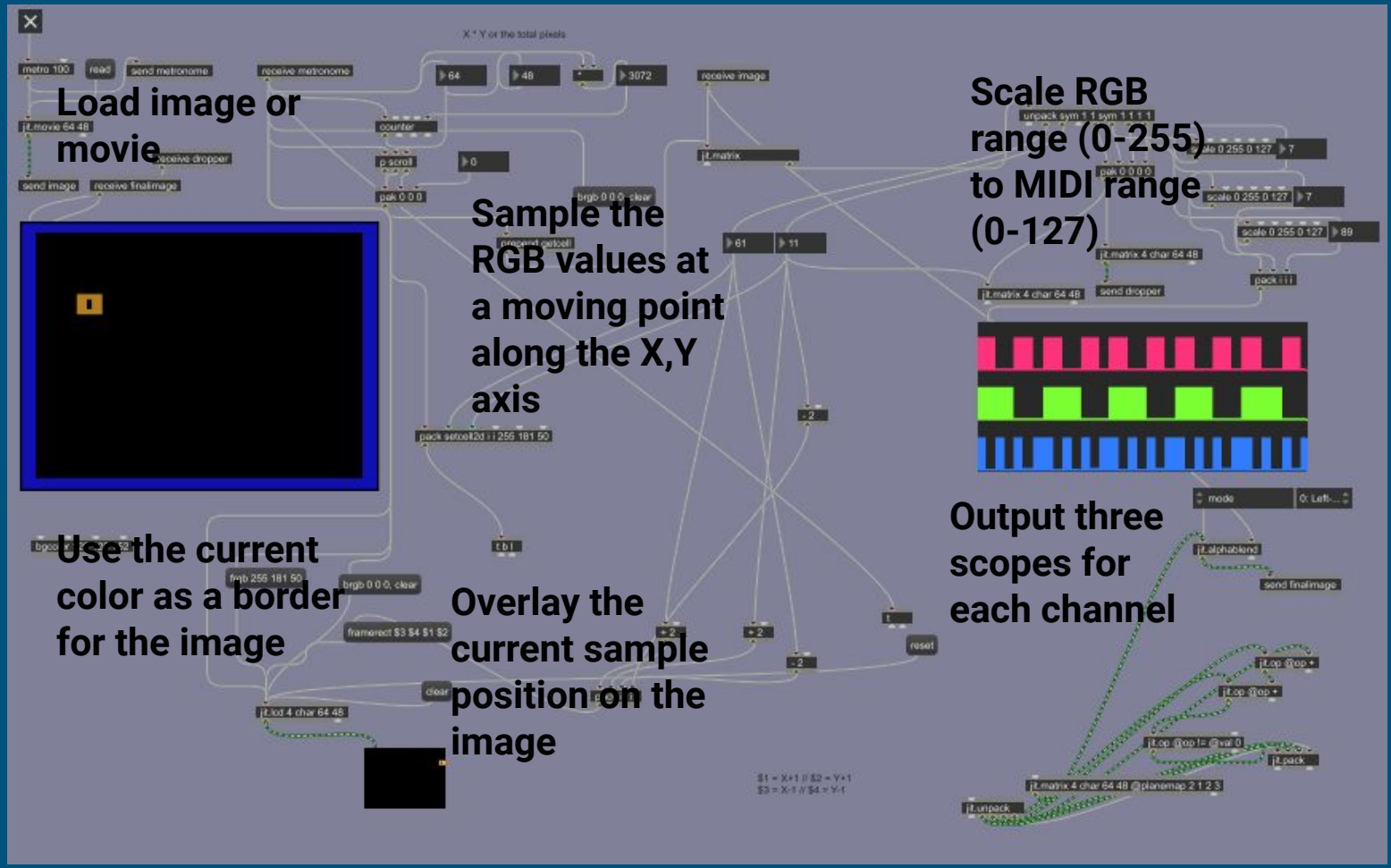



*Initial sketch on inside of Shreddies box*

Version 0.2


X * Y or the total pixels
metro 100
read
send metronome
receive metronome
64
48
*
3072
receive image
jit.movie 64 48
counter
receive dropper
p scroll
0
send image
receive finalimage
pak 0 0 0
brgb 0 0 0, clear
jit.matrix
unpack sym 1 1 sym 1 1 1 1
scale 0 255 0 127
7
pak 0 0 0 0
scale 0 255 0 127
7
scale 0 255 0 127
89
prepend getcell
61
11
jit.matrix 4 char 64 48
send dropper
pack i i i
jit.matrix 4 char 64 48
pack setcell2d i i 255 181 50
÷ 2
mode
0: Left-...
bgcolor 128 128 152
t b i
jit.alphablend
send finalimage
rgb 255 181 50
brgb 0 0 0, clear
framerect $3 $4 $1 $2
+ 2
+ 2
÷ 2
t
reset
clear
pack i i i i
jit.lcd 4 char 64 48
jit.op @op +
jit.op @op +
jit.op @op != @val 0
jit.pack
jit.matrix 4 char 64 48 @planemap 2 1 2 3
jit.unpack
$1 = X+1 // $2 = Y+1
$3 = X-1 // $4 = Y-1

Version 0.2


Load image or movie
Sample the RGB values at a moving point along the X,Y axis
Scale RGB range (0-255) to MIDI range (0-127)
Use the current color as a border for the image
Overlay the current sample position on the image
Output three scopes for each channel

Version 1.3


Smooth 0.00 ms 0.00 Low Cut
Offset 0.00 100.00 High Cut
Smooth 0.00 ms 0.00 Low Cut
Offset 0.00 100.00 High Cut
Smooth 0.00 ms 0.00 Low Cut
Offset 0.00 100.00 High Cut
read
BPM
192.2
Playhead Direction
Forwards
MIDI Chan
MIDI CC #
1 0
1 0
1 0

Version 1.3

Smoothing control makes value changes less sharp

Offset allows for a constant value to be added or subtracted from the output

Low and High Cut controls allow for fine-tuning the output range


BPM control over Playhead tempo

Playhead direction: Forwards, Backwards, Palindrome/Ping-Pong

Assignable MIDI channel & CC per colour

***Version 2***

# What's next for this device?

Make it a Max4Live device

Incorporate native tempo-synchronization and clock division

Add additional data outputs for X, Y and (Current pixel / Total pixels)

These outputs would generate positive ramp / sawtooth for "forward" playback, negative ramps for "backwards" playback and triangle waves for palindrome / ping-pong playback.

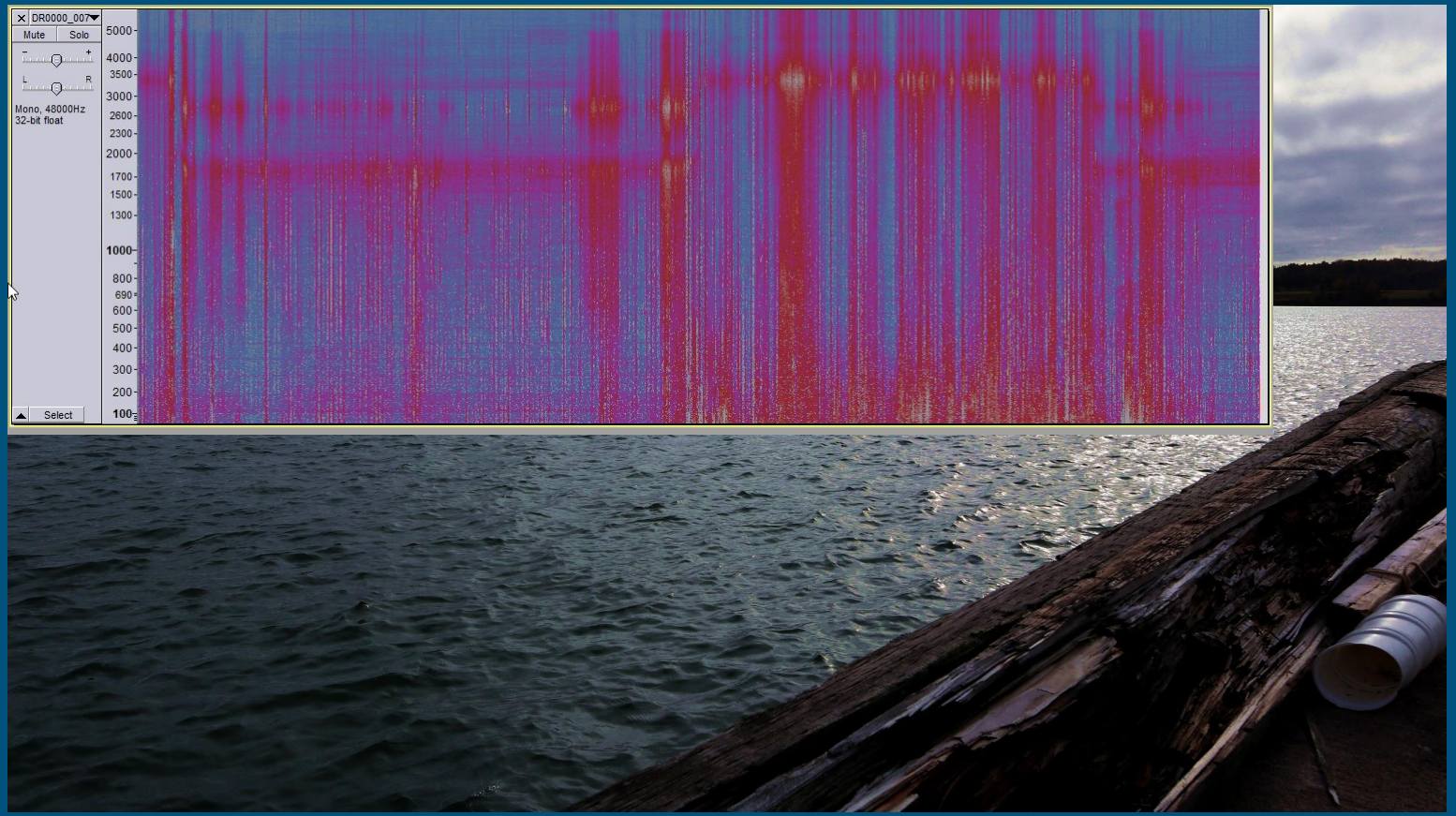
Add random (true random) and non-repeating random playback modes

Allow for sub-regions within the image to be selected and looped

Add additional playheads for more simultaneous processing

# Documenting the changing now

Photographs of the Bay of Fundy and hydrophone recordings taken during the highest tides in the world


DR0000_007
Mute
Solo
L
R
Mono, 48000Hz
32-bit float
Select
5000
4000
3500
3000
2600
2300
2000
1700
1500
1300
1000
800
690
600
500
400
300
200
100


Smooth 0.00 ms 0.00 Low Cut
Offset 0.00 100.00 High Cut
Smooth 0.00 ms 0.00 Low Cut
Offset 0.00 100.00 High Cut
Smooth 0.00 ms 0.00 Low Cut
Offset 0.00 100.00 High Cut
read
BPM
192.2
Playhead Direction
Forwards
MIDI Chan
MIDI CC #
1 0
1 0
1 0
MIDI-CC
SCOPE
SCOPE
SCOPE
macro oscillator 2
macro oscillator 2
macro oscillator 2
8VERT
AUDIO-8
Plateau
MIXER
MIXER
QUADSIMPLER
MIDI-CC
KORG
nanoKONTROL2
TRACK
MARKER
CYCLE
SET


NOTES
The red, green and blue values are routed to:
The scope, in order to see them
The v/oct input of three particle noise oscillators
Many of the voltage-controlled parameters of the reverberation
The panning control of the stereo mixer
MIDI-CC
Windows MIDI
loopMIDI Port 2
All channels
SCOPE
SCOPE
SCOPE
X SCL
Y SCL
TIME
TRIG
X POS
Y POS
X IN
Y IN
macro oscillator 2
FREQUENCY
HARMONICS
TIMBRE
FM
MORPH
MODEL
HARMO
TRIG
LEVEL
V/OCT
OUT
AUX
8VERT
NOTES
Four hydrophone recordings are loaded in a sampler and routed to:
Three envelope followers who in turn control the start position and start triggering of the samples
The reverberation module
The particle noise oscillators and the samples are mixed with the reverberation
M2M2
AUDIO-8
DirectSound
Default Device (1-2 )
TO DEVICE
FROM DEVICE
Plateau
Valley
MIXER
LEVEL
QUADSIMPLER
FOLLOWER
AMP OUT
GAIN
DECAY
THRESHOLD
ENV
GATE MODE
GATE
TRIG
IN
ENV
GATE
MIDI-CC
nanoKONTROL2 1 SLIDER
Channel 1

**The red, green and blue values are routed to:**

The scope, in order to see them
The v/oct input of three particle noise oscillators
Many of the voltage-controlled parameters of the reverberation
The panning control of the stereo mixer

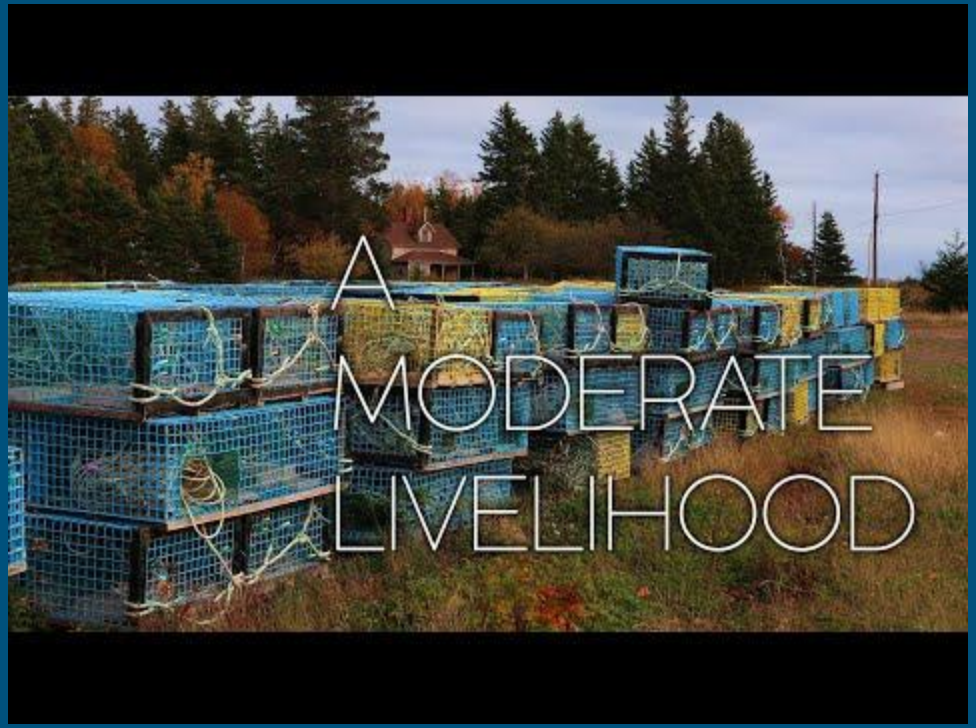
**Four hydrophone recordings are loaded in a sampler and routed to:**

Three envelope followers who in turn control the start position and start triggering of the samples
The reverberation module

The particle noise oscillators and the samples are mixed with the reverberation

**The Korg NANOKONTROL2**

Allows me to control the mixer faders and both pre- and post-reverb EQ


A
MODERATE
LIVELIHOOD

# References

1. Pannozzo, Linda. “In Search of Common Ground: An interview with Arthur Bull about the lobster fishery crisis in St. Mary’s Bay.” Halifax Examiner, November 1, 2020. Accessed November 1, 2020. https://www.halifaxexaminer.ca/environment/in-search-of-common-ground-an-interview-with-arthur-bull-about-the-lobster-fishery-crisis-in-st-marys-bay/