

Judith Shatin

Terra Infirma

For Septet & Electronics



## Program Notes

We are selling out our planet in exchange for material comforts. In a way, this reminds me of Stravinsky's dramatic musical tale *L'histoire du Soldat*, in which a soldier sells his fiddle to the devil in exchange for a wondrous book promising untold riches. What at first seems to be an easy bargain, however, quickly leads to devastating consequences. While a host of organizations and individuals are working hard to change our own environmental bargain and avert long-term disaster, is it already too late? The Great Lakes, a watershed holding 20% of the world's fresh water, offers its own cautionary tale: because of habitat loss, climate change and pollution, many of the species they have long sustained are under threat, with some now on the verge of extinction, if not past it.

Often, composers create soundscape compositions aimed at giving an immersive sense of a distant place. My goal is different. Instead, *Terra Infirma* features the voices of animals that call the Great Lakes region home. We need to hear these voices clearly. To do so, I sometimes amplify and lightly process their voices and juxtapose those not found in natural proximity. A dialog builds between the sounds of the lakes with their fauna and the instrumental music. Sometimes this takes the shape of call and response, sometimes of anguished alarm and still others of lament.

*Terra Infirma* unfolds in three movements. Each focuses on a different constellation of animal voices, lake sounds and instrumental music, and each has its own dynamic.

- I. Birds
- II. Mammals and Fish
- III. Reptiles and Amphibians

I am grateful to the many institutions, naturalists, and researchers who shared their insights, and to those who shared field recordings as I was in the throes of composing. A complete list is appended. Among them are the outstanding Macaulay Library at the Cornell Lab of Ornithology; naturalist Lang Elliott, who has so beautifully recorded animals in their natural habitat; and Dr Bernhard Wessling, who has contributed greatly to the conservation of whooping cranes as they have almost vanished from the wild.

Special thanks go to two members of the Michigan Technological University community: composer Libby Meyer and Andrew Barnard, director of the Great Lakes Research Center. Without them this project would not have come into existence.

We often fail to notice the extinctions that define the Anthropocene. May we listen to these animals' voices now and take whatever actions we can to protect them as well as this life-giving watershed.

Commissioned by  
Michigan Technological University &  
the Great Lakes Research Center (GLRC)

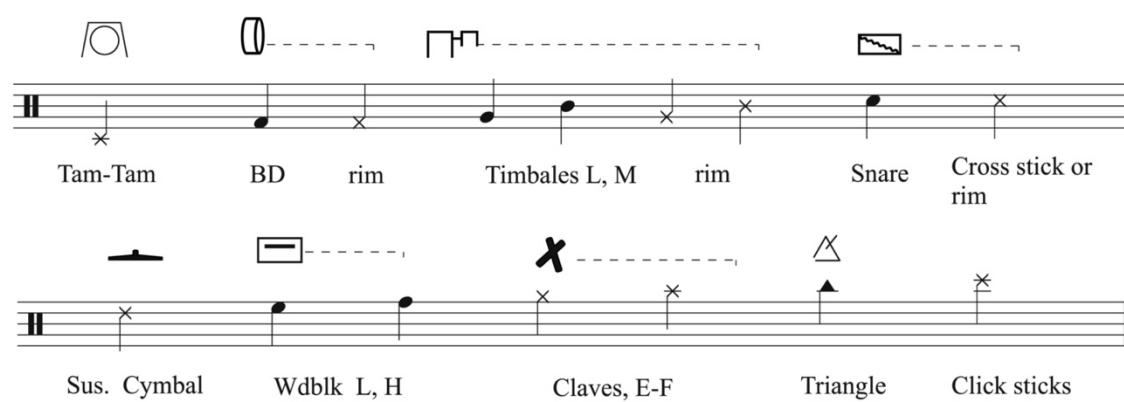
Duration 19:35

## Instrumentation

Soprano Sax  
 Bb Trumpet  
 Tenor Trombone  
 Percussion  
 Triangle (close to E)  
 2 Claves on trap table  
 2 Wood Blocks (M, H)  
 Snare Drum  
 2 medium & 1 large superball on sticks  
 Medium Suspended Cymbal  
 Bass Drum  
 Tam-Tam  
 Violin  
 Viola  
 Cello  
 Conductor

Click track & Headphones  
 Monitor Speaker  
 Stereo Electronics & Playback System  
 \*When feasible, the instruments should be lightly amplified and mixed with the stereo electronics

## Percussion Layout & Symbols



|     |                                                                                                                            |    |                                                                                           |
|-----|----------------------------------------------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------|
|     | Tam-tam mallet hanging on tam-tam stand                                                                                    |    | Timbale stick                                                                             |
|     | Medium yarn mallet                                                                                                         |    | Medium tympani mallet                                                                     |
|     | Metal triangle Beater                                                                                                      |    | Wire brush                                                                                |
|     | Medium rubber mallet                                                                                                       |    | Wire brush with dreads                                                                    |
|     | Snare sticks                                                                                                               |    | 1-hand tremolo across drumhead, moving from top to bottom and back in a continuous motion |
|     | Superball on stick                                                                                                         |    | Thin dowell                                                                               |
| CS  | Cross stick                                                                                                                | M  | Mute with hand                                                                            |
| R   | Rim                                                                                                                        | RS | Rim shot                                                                                  |
| SH  | Play on shell                                                                                                              |    | Bow                                                                                       |
| SOH | Stick on head: play with tip of stick or brush on head as indicated; experiment with amount of pressure for desired sound. |    |                                                                                           |

## Performance Notes

Tempo is  $\text{♩} = 60$  throughout

A click track and headphones will be needed by the conductor, as well as a monitor speaker.  
Stereo speakers should be placed to the right and left of the ensemble.  
Depending on room size and acoustics, it may be useful to amplify the ensemble. In this case, their sound should be lightly mixed with the electronics so they inhabit the same sonic space.

Grace notes should be played before the beat.  
Accidentals last through the measure in register.

Measure duration is sometimes indicated in seconds, more often with traditional time signatures  
When boxed directions start within, or end within, a bar, the exact point of initiation or completion is flexible. The proportion of the bar involved suggests the starting and stopping points.

### Strings

|      |                             |
|------|-----------------------------|
| msp. | <i>molto sul ponticello</i> |
| s.p. | <i>sul ponticello</i>       |
| sp   | <i>subito piano</i>         |

Pivot Angle the bow so it is about 70 degrees rather than perpendicular to the instrument. Make a slow scrape for a strong creaking/cracking sound.

Scrape Bow scrape from close to the fingerboard neck towards the bridge in a strong sweeping motion. Makes a strong noise sound.

T-s.p.-T-s.p. Circular bowing; move smoothly from *tasto* to *s.p.* and back creates a timbral shift.



Increasing bow pressure

Rustling sounds: draw on techniques such as bowing on muted strings, tremolo with little finger pressure, playing with half-bow, half-hair, or a bit over the fingerboard on II and/or III. Other techniques include repeated ‘windshield wiper’ sweeps from *tasto* to bridge with muted strings and audible shifts, using a ‘sticky’ finger to create a sound similar to a guitar squeak shift.

### Wind/Brass

t before tr – timbral trill

## Field Recording Sources

### **Macaulay Library at the Cornell Lab of Ornithology**

[macaulaylibrary.org](http://macaulaylibrary.org)

*Kirtland’s Warbler* (EG Boyes, 223058), *Piping Plover* (George B. Reynard, 2981),  
*Sandhill Crane* (Wil Hershberger, 2539731), *Bobolink* (Wil Hershberger, 527283),  
*Common Loon* (William W.H. Gunn, 43039)

### **Music of Nature – Lang Elliott**

[musicofnature.com](http://musicofnature.com)

*American Toad, Bullfrog (serenade), Fowler’s Toad, Green Frog, Pickerel Frog, Spring Peepers, Common Loon, Wood Thrush, Elk (bugling), River Otter, Wolf (solo and chorus)*

### **Individuals & Additional Organizations**

*Boreal Chorus Frog and Blanchard’s Cricket Frog* (Gary Nafis, [californiaherps.com](http://californiaherps.com)), *Boreal Chorus Frog yell* ([www.nps.gov/yell/learn/photosmultimedia/minute\\_chorusfrogs.htm](http://www.nps.gov/yell/learn/photosmultimedia/minute_chorusfrogs.htm)) *Northern Leopard Frog and Pickerel Frog* (Andrew Badje, [usgs.vog/centers/eesc](http://usgs.vog/centers/eesc)), *Mink Frog* ([www.umesc.usgs.gov/terrestrial/amphibians/Armi/frog\\_calls.html](http://www.umesc.usgs.gov/terrestrial/amphibians/Armi/frog_calls.html)), *Loon Preservation* ([loon.org](http://loon.org)), *Canadian Lynx* (Stuart Chapman), *Drumfish* (Rodney Rountree, [fishecology.org](http://fishecology.org)), *Lake Trout, Round Goby, and Sturgeon* (Nicholas S. Johnson/Tyler Bruning, [usgs.gov/centers/great-lakes-science-center/science/Hammond-bay-biological-station](http://usgs.gov/centers/great-lakes-science-center/science/Hammond-bay-biological-station)), *Dennis Higgs* ([higgsfishlab.com](http://higgsfishlab.com)), *Common Loon* (Davyd Betchkal, [nps.gov/articles/davyd-betchkal-soundscape-specialist.htm](http://nps.gov/articles/davyd-betchkal-soundscape-specialist.htm)), *Whooping Cranes* (Dr. Bernhard Wessling, [bernhard-wessling.com](http://bernhard-wessling.com)), *Great Lakes Recordings Nature Sounds Libraries* (Thomas Rex Beverly, [thomasrexbeverly.com](http://thomasrexbeverly.com)), *Lake Recordings* (Andrew Barnard, Director, Great Lakes Research Center) *Nature Recordings of Great Lakes soundscapes* (Chris Plummer, Michigan Technological University, [mtu.edu](http://mtu.edu)), *Wildechoes* (Chris Hails, [wildechoes.org](http://wildechoes.org))

## Instrument Collaborators

*Soprano Sax: Susan Fancher, Trumpet: Ivano Ascari, Peter Wood and Arthur de Camargo Zanin, Trombone: Nathan Lee, Percussion: I-Jen Fang, Violin: David Sariti*

## Terra Infirma

## I. Birds

Judith Shatin

**Calm**  $\text{♩} = 60$  Sempre

10 10 10

0:00 0:10 0:20

Soprano Sax: Intermittent wind sounds. Start without mouthpiece; vary durations, use syllables sh-shu.

Trumpet in B♭: Intermittent wind sounds. Start without mouthpiece. Blow alternate 'sah' and 'see'.

Trombone: Snares off. Intermittent wind sounds. Gradually increase density.

Percussion: Gently bounce dread tips while gradually moving down drum face; repeat, alternating hands. Bounce from a couple of inches up and continue to lightly bounce tips as you move down the drum face. Sounds like gentle rain. Start sparsely, with longer lag between hands, gradually intensify. Add occasional rolling 1-hand trills lightly touching the dread tips to the drum. Randomly change hands, occasionally trill together.

Violin: Intermittent rustling sounds; gradually increase density.

Viola: Intermittent rustling sounds; gradually increase density.

Cello: Intermittent rustling sound; gradually increase density. Slow circular bowing T-s.p.-T.s.p.

Electronics: Lake sounds continue throughout the movement.

1 2 3

10

0:30 Replace mouthpiece

A 0:40 Inviting

0:45

S. Sx.: Decrease density to none. Replace mouthpiece, insert straight mute.

Bb Tpt.: Decrease density to none. Insert straight mute.

Tbn.: Decrease density to none.

Perc.: Decrease density, first to one hand, then to none. Bowed (emphasize harmonics).

Vln.: Decrease density to none.

Vla.: Decrease density to none.

Vc.: Decrease density to none.

E.  $p$   $n$   $pp$

4 5 6

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0:50                    0:55                    0:58                    1:01

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

Vc. 

E. 

7                    8                    9                    10

1:06                    1:10                    1:14                    1:18

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

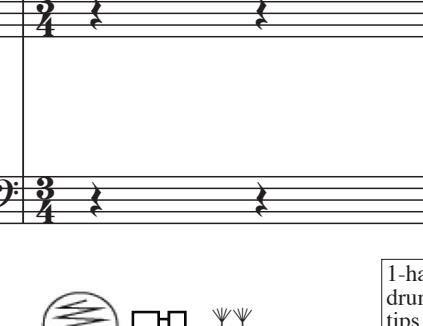
Vla. 

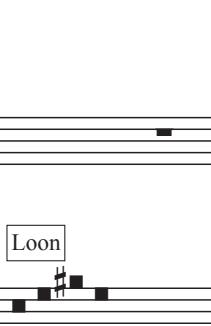
Vc. 

E. 

11                    12                    13                    14

**Scrape** 

**1-hand tremolo across drum face. Press brush tips onto surface with medium pressure.** 

**Loon** 

1:21                    1:24                    1:28                    1:32

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

15                    16                    17                    18

1:35                    1:37                    1:40

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

19                    20                    21

1:44                    1:48                    1:50                    1:53                    1:57

S. Sx. *t tr* *mp*      > *p*      -      -      *mp*

B♭ Tpt. *t tr* *mp*      -      -      -      *mp*

Tbn. *t tr* *mp*      -      *mf*      *p*      *mp*

Perc. *p*      *?* *?*      -      -      -

Vln. *pizz.* *f*      *mp*      *mp*

Vla. *mf*      *p*      *mp*      *mf*      *mp*

Vc. *mf*      *p*      *mp*      *mf*      *mp*

E. *Loon wails (2)*      -      -      -      -

22      23      24      25      26

**B** 2:00 Lively

S. Sx. *sf* *mf* *f*

B♭ Tpt. *sf* *f*

Tbn. *sf* *f*

Perc. *sf mp* *f*      *mf* *f*

(Snares off)

Vln. *sf* *mf* *f*

Vla. *sf* *mf* *f*

Vc. *sf* *f*      *s.p.* *sf*

E. *Loon yodel sweep*

27      28      29

C 2:10 2:13 2:17

S. Sx. 

Vln. Vla. Vc. E.

30 31 32

2:20 2:22 2:24 2:27 ?

S. Sx. B♭ Tpt. Tbn. Perc.

Stick neck  
on rim.

Vln. Vla. Vc. E.

pizz. pizz.

33 34 35 36

mf f f f

3 3 3 3

Loon calls to 3:00

2:30 2:34

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

37 38

2:38 2:42 2:46

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

39 40 41

**D** 2:51                    2:55                    2:57 *tdr*

S. Sx. *sf*                    *f*

B♭ Tpt. *sf*

Tbn. *sf*

Perc. Add **?** *sf*                    *f*

Vln. *pizz.* *sf f*

Vla. *pizz.* *sf f*

Vc. *pizz.* *sf f*

E. **[Sandhill Cranes (to 3:25)]**

42                    43                    44

3:01

S. Sx. *#>* *#>*

B♭ Tpt. *#>* *#>*

Tbn. *#>* *#>*

Perc. *#>?* *#>* *#>?*

Vln. arco *#>* *#>* *pizz.* *#>* arco *mf* *#>* *mp*

Vla. arco *#>* *#>* *pizz.* *#>* arco *mf* *#>* *mp*

Vc. arco *#>* *#>* *pizz.* *#>* arco *mf* *#>* *mp*

E. **[5]** *#>* **[4]** *#>* **[5]**

45                    46

3:10

**E Yearning**

S. Sx.  $\frac{2}{4}$       3:15  $\frac{4}{4}$   $\frac{3}{4}$   $\frac{4}{4}$   
 B♭ Tpt.  $\frac{2}{4}$        $\frac{4}{4}$   $\frac{3}{4}$   $\frac{4}{4}$   
 Tbn.  $\frac{2}{4}$   $\frac{4}{4}$   $\frac{3}{4}$   $\frac{4}{4}$   
 Perc.  $\frac{2}{4}$   $\frac{4}{4}$   $\frac{3}{4}$   $\frac{4}{4}$   
 Vln.  $\frac{2}{4}$   $\frac{4}{4}$   $\frac{3}{4}$   $\frac{4}{4}$   
 Vla.  $\frac{2}{4}$   $\frac{4}{4}$   $\frac{3}{4}$   $\frac{4}{4}$   
 Vc.  $\frac{2}{4}$   $\frac{4}{4}$   $\frac{3}{4}$   $\frac{4}{4}$   
 E.  $\frac{2}{4}$   $\frac{4}{4}$   $\frac{3}{4}$   $\frac{4}{4}$   $\frac{5}{4}$

Kirtland Warbler, intermittent to 5:23  
 Woodthrush (3:15 - 3:45)  
 Bobolinks, intermittent to 4:50

47 48 49 50

3:25  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$   
 S. Sx.  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$   
 B♭ Tpt.  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$   
 Tbn.  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$   
 Perc.  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$   
 Vln.  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$   
 Vla.  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$   
 Vc.  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$   
 E.  $\frac{4}{4}$   $\frac{6}{4}$   $\frac{4}{4}$   $\frac{5}{4}$

51  $\frac{6}{4}$  52  $\frac{6}{4}$  53  $\frac{5}{4}$

3:39

S. Sx.  $\frac{5}{4}$

B♭ Tpt.  $\frac{5}{4}$

Tbn.  $\frac{5}{4}$

Perc.  $\frac{5}{4}$

Vln.  $\frac{5}{4}$

Vla.  $\frac{5}{4}$

Vc.  $\frac{5}{4}$

E.  $\frac{5}{4}$

3:44

*mf*

*mf*

*mf*

*mp*

*p*

*p*

*p*

|| Snares on

3:48

*p*

54 55 56

3:53

F Distressed

S. Sx.  $\frac{3}{4}$

B♭ Tpt.  $\frac{3}{4}$

Tbn.  $\frac{3}{4}$

Perc.  $\frac{3}{4}$

Vln.  $\frac{3}{4}$

Vla.  $\frac{3}{4}$

Vc.  $\frac{3}{4}$

E.  $\frac{3}{4}$

3:56

*ff*

*f*

*ff*

*ff*

*ff*

*ff*

*ff*

RS CS

*f*

*mf*

*f*

*f*

*f*

*f*

*f*

4:00

*tur*

*p*

*p*

*p*

*p*

*p*

*p*

4:04

57 58 59 60

Whooping cranes

4:06

S. Sx. *ff*

B♭ Tpt. *ff*

Tbn. *ff*

Perc.

Vln.

Vla.

Vc.

E.

G 4:10

1-hand tremolos with medium brush tip pressure on face (roll wrist); Move top to bottom and back. *f*

Swish bow back & forth, near fingerboard to bridge; play intermittently. *f*

Swish bow back & forth, near fingerboard to bridge; play intermittently. *f*

arco Swish bow back & forth, near fingerboard to bridge; play intermittently. *f*

61 62

4:15

4:19

4:22

4:25

S. Sx.

B♭ Tpt. *f*

Tbn. *f*

Perc. *f*

Vln.

Vla.

Vc.

E. Whooping cranes

Whooping crane alerts

63 64 65 66

4:30 4:35 4:39

S. Sx. *mp*

B♭ Tpt. *mp*

Tbn. *mf* *mp*

Perc. Stick on rim *ord.* *p*

Vln. *pizz.* *ord. pizz.* *f* *mp*

Vla. *pizz.* *ord. pizz.* *mf* *mf* *mp*

Vc. *arco* *mp*

E. *Loon yodel* **67** **68** **69**

4:43 **H** 4:48 4:53 4:58

S. Sx. *p*

B♭ Tpt. *p*

Tbn. *p*

Perc. *mp*

Vln. *p*

Vla. *p*

Vc. *mf* *mf* *f*

E. **70** **71** **72** **73**

5:02                    5:07                    5:11                    5:15

S. Sx. *mf*

B♭ Tpt. *mf*

Tbn. *mf*

Perc. Tremolo with stick tips on drum face

Vln. *mf*

Vla. *mf*

Vc. *mf*

E. 5 74      4 75      f 76      Piping Plover 77

5:20                    5:25                    5:30

S. Sx.

B♭ Tpt. *f*

Tbn. *f*

Perc. *mf*

Vln. pizz. *f*

Vla. *f*

Vc. *f*

E. 78      79      Loon distress, intermittent to 5:38 80

5:35 I 5:40 5:45 *t tr*

S. Sx. *f* *p* *mp* *p*

B♭ Tpt. flt. *mp* *p*

Tbn. *f* *p*

Perc. *mp*

Vln. arco s.p. ord. *mp* *p*

Vla. s.p. ord. *mp* *p*

Vc. *p*

E. Distant loons to 6:12 Whooping Crane anxious breath (to 6:02) 81 82 83

5:50 5:55 6:00

S. Sx. *mp* *mp*

B♭ Tpt. ord. *mp*

Tbn. *mp*

Perc. *p*

Vln. *mp* > *p* *mp*

Vla. *mp* > *p* *mp*

Vc. *mp* *p*

E. 84 85 86

6:05

S. Sx. *p*

B♭ Tpt. *p*

Tbn. *p*

Perc. *? scrape* *mf*

Vln. *mp* *p* *mp* *p*

Vla. *p*

Vc. *p*

E.

6:10 Remove mouth piece

Wind sounds. Use 'duh' syllable, mainly unvoiced, with occasional voiced sounds

Wind sounds Use 'sh', 'see,' etc.

Wind sounds

Intermittent 1-hand rolls on brush tips, alternating hands. Gradually intermix light descending bounces on tips.

slow gliss.

Slow repeating gliss, tasto towards fingerboard & back

Lake sounds continue to end.

87 88 89

6:20

S. Sx. Increasingly sparse

B♭ Tpt. Increasingly sparse

Tbn. Increasingly sparse

Perc. Increasingly sparse

Vln. *ppp* Intermittent rusling sounds

Vla. *ppp* Intermittent rusling sounds

Vc. *ppp* Intermittent rusling sounds

E.

6:25

6:30 L.V.

90 91 92

## II. Fall-Winter: Mammals & Fish

**Edgy**

0:00                    0:05                    0:10                    0:20                    0:25

S.sx.                    Bb Tpt.                    Tbn.                    Perc.                    Vln.

Bb Tpt.                    insert bucket mute

Tbn.                    Solo                    Rub 1 superball slowly on the bass drum in a circular direction close to the edge. At ca. 5", move with your other superball to the low timbale while continuing on the bass drum. Repeat, then move to timbale and slowly alternate superball drags.

Perc.                    f

Vla.                    Vc.                    E.                   

0:30                    0:35                    0:40                    0:45

S. Sx.                    Bb Tpt.                    Tbn.                    Perc.                    Vln.                    Vla.                    Vc.                    E.

Lake sounds, some waves and ice; (to 2:40)                    Drum fish

1                    2                    3                    4                    5

0:30                    0:35                    0:40                    0:45

S. Sx.                    Bb Tpt.                    Tbn.                    Perc.                    Vln.                    Vla.                    Vc.                    E.

Imitate moose; growl raspy 'ah' in throat                    flz.                    ord.                    Stick neck on rim

f                    || 0                    mf                    pizz.                    arco

pizz.                    f                    msp.                    ord.                    arco

f                    f                    f                    arco

Moose call                   

6                    7                    8                    9

0:50 **Playful**

**A**

S. Sx. *f*

B♭ Tpt.

Tbn.

Perc. *f*

Vln. 6

Vla. 6

Vc. *f*

E. **River otter**

0:55

10 11

0:58

1:02 *tir*

1:05

S. Sx. *f*

B♭ Tpt.

Tbn. *f*

Perc. **?**

Vln. *f* s.p. ord.

Vla. *f* arco s.p. ord.

Vc. *pizz.*

E. 4 3 5

12 13 14

**B**

1:10 **Fearful**

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

1:15

Growl 'Oh' on low pitch and play pedal tone while slowly playing low ascending & descending glissandi. Respond to lynx.

remove mute

f

arco msp.

ff

Canadian lynx howls Intermittent (1:10 - 1:30)

Ice crash Water/ice (to 6:05)

15

16

1:20

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

1:25

ff

flz. ord.

remove mute

scrape

arco msp.

ff

arco msp.

ff

s.p.

ord.

Ice crash

1:28

f

ord.

f

ord.

f

17

18

19

1:30 1:35

S. Sx. B♭ Tpt. Tbn. Perc. Vln. Vla. Vc. E.

Elk Round goby Ice/water

**20** **21**

**C** 1:40 Sturdy 1:45 1:48 1:53 Pensive

S. Sx. B♭ Tpt. Tbn. Perc. Vln. Vla. Vc. E.

flz. ord. arco s.p. chop ord. n.v. f ord. n.v. f s.p. chop ord. n.v. f

More Elk, harmonic series

**22** **23** **24** **25**

1:56                    2:01                    2:06

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

Vc. 

E. 

Wolves (intermittent to 5:30)

26                    27                    28

2:09                    2:13                    2:17                    2:20

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

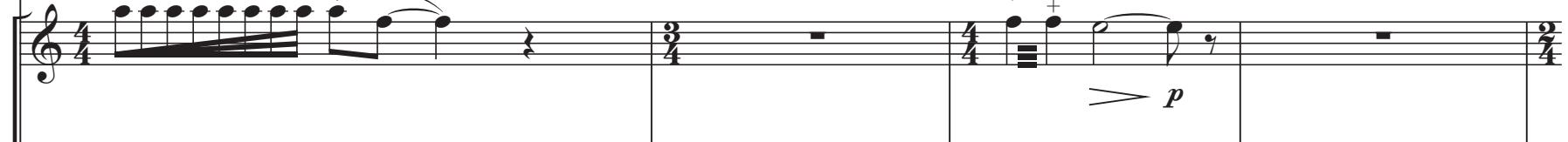
Vc. 

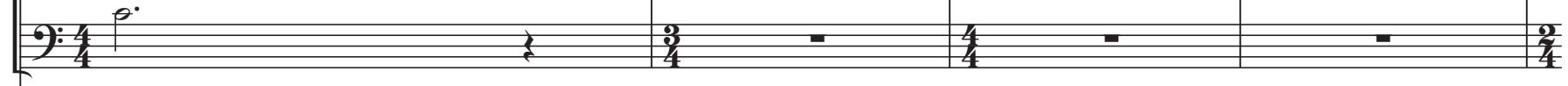
E. 

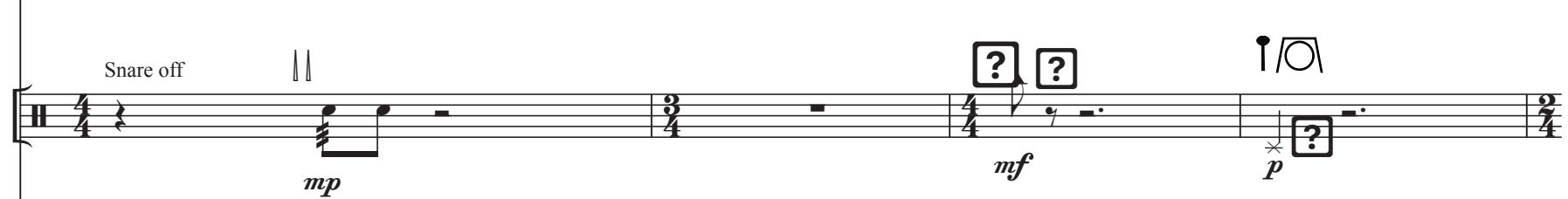
29                    30                    31                    32

2:25                    2:29                    2:32                    2:36

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

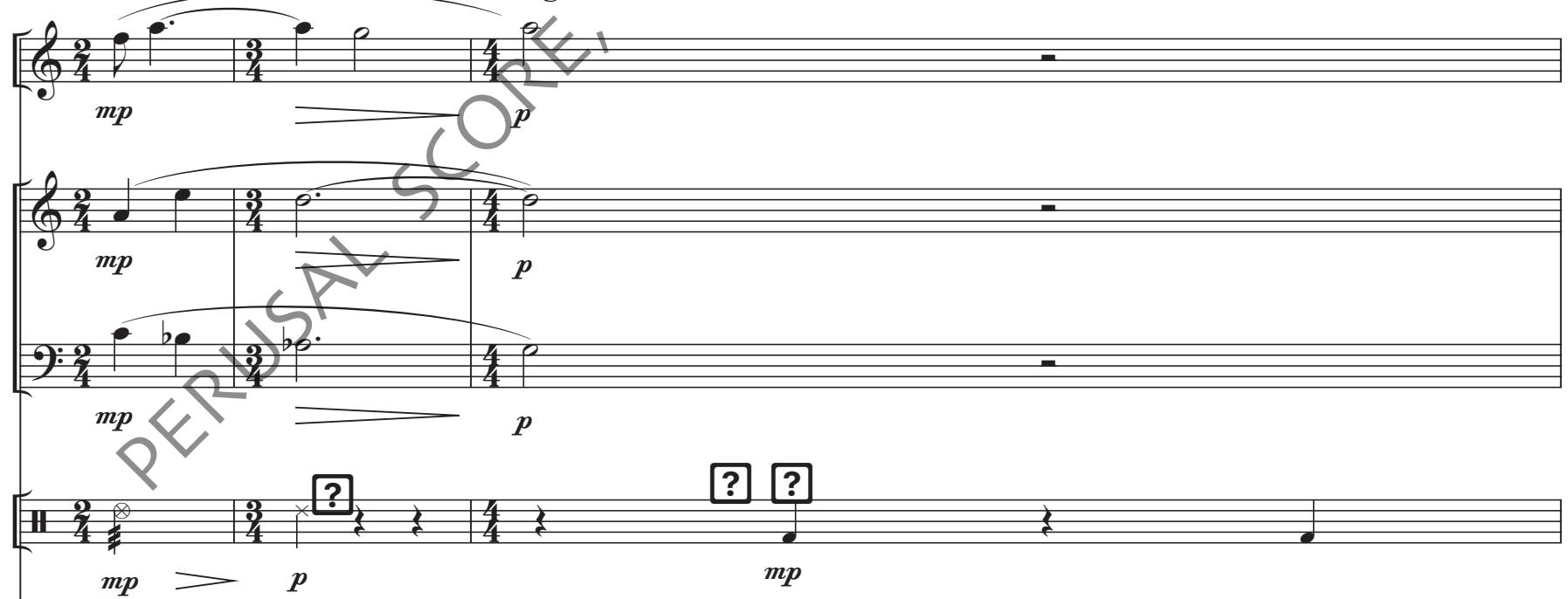
Vc. 

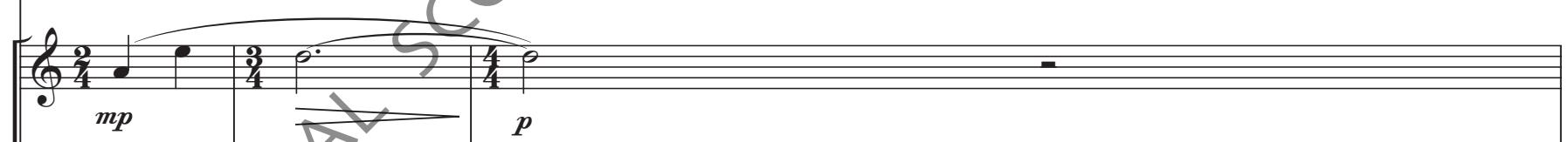
E. 

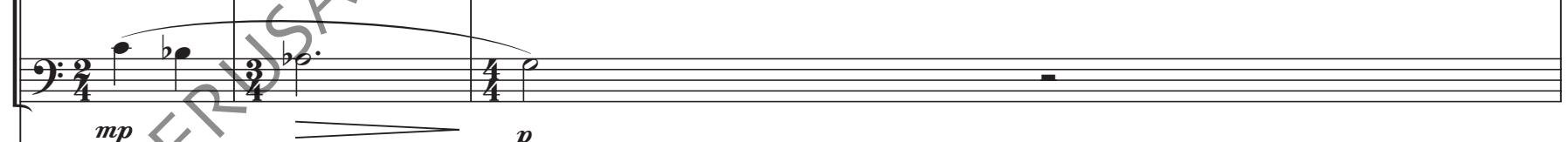
Snare off      ||

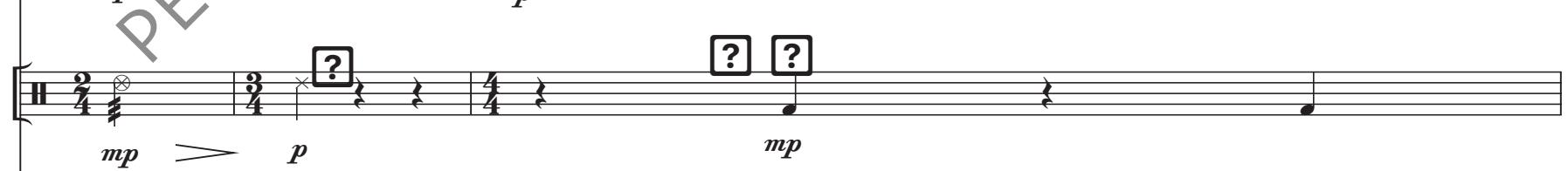
33                    34                    35                    36

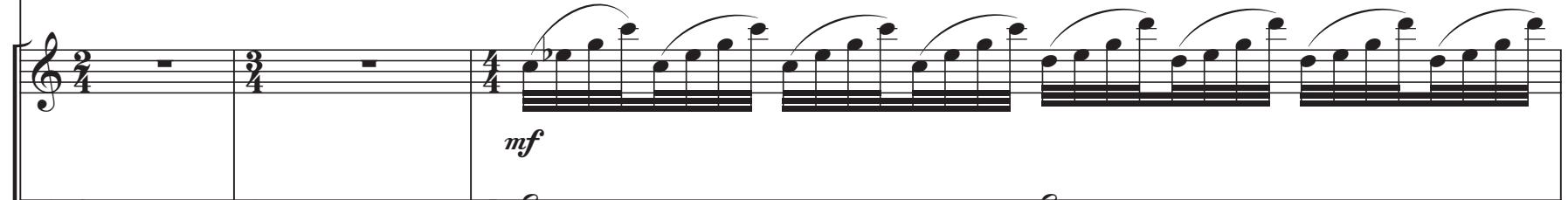
2:40                    2:42                    **D 2:45 Regretful**

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

Vc. 

E. 

37                    38                    39

2:49

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

2:53

*mf*

3:01

40

41

2:57

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

3:01

*f*

*f*

*mf*

*mp*

*p*

42

43

3:05                    3:09                    3:13                    3:17

S. Sx.                    B<sub>b</sub> Tpt.                    Tbn.                    Perc.

Vln.                    Vla.                    Vc.                    E.

44                    45                    46                    47

**E** 3:22                    3:24                    Increasingly intense                    3:28                    3:31                    3:36

S. Sx.                    B<sub>b</sub> Tpt.                    Tbn.                    Perc.                    Vln.                    Vla.                    Vc.                    E.

Bounce and lightly drag  
dread brush down face

Wolf & trout                    Wolf, elk and trout

48                    49                    50                    51                    52

3:38                    3:41                    3:45                    3:49

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

Vc. 

E. 

53                    54                    55                    56

3:52                    3:55                    3:59                    4:02

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

Vc. 

E. 

57                    58                    59                    60

Elk  Intermittent fish, wolves, elk (to 4:50)

Wolf 

4:07                    4:12                    4:15                    4:20

S. Sx.

Vln.

Vla.

Vc.

E. Elk

61                    62                    63                    64

4:23                    4:26                    4:30                    4:35

S. Sx.

B♭ Tpt.

Tbn.

Perc. ? ?

Vln. mf

Vla. mf arco

Vc. mf

E. Ice stacking (4:25 - 6:05)

65                    66                    67                    68

4:38

4:40

4:42

25

**F Aggressive**

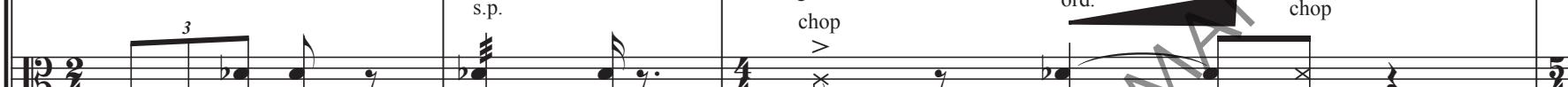
S. Sx. 

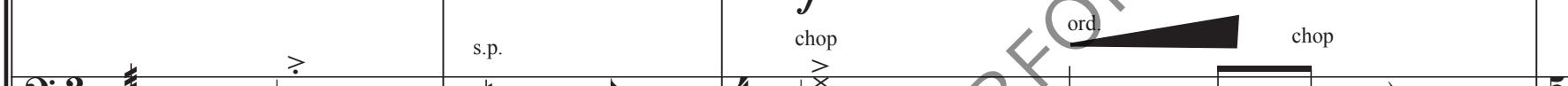
B♭ Tpt. 

Tbn. 

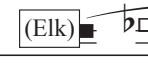
Perc. 

Vln. 

Vla. 

Vc. 

E. 

**(Elk)**  **Wolf howls (to 4:50)** 

More waves (4:40 - 6:09) 

ord. chop ord. chop ord. chop ord. chop ord. chop

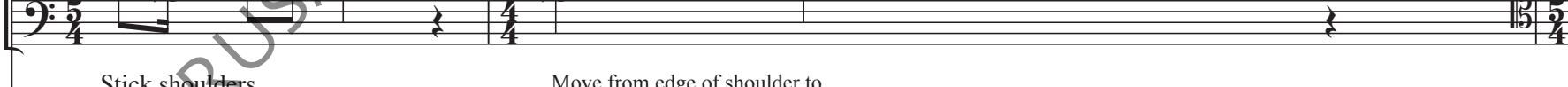
69 70 71

4:46

4:51

S. Sx. 

B♭ Tpt. 

Tbn. 

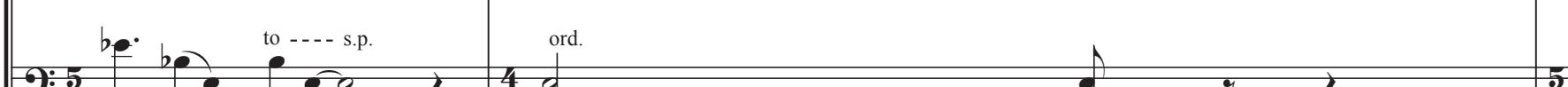
Perc. 

Stick shoulders  
on rim

Move from edge of shoulder to  
a couple of inches down the shaft.

Vln. 

Vla. 

Vc. 

E. 

to ---- s.p. ord. 6 7 to ---- s.p. ord. 6 7 to ---- s.p. ord. 6 7

Elk 

72 73

4:55 *tut*

S. Sx.

B♭ Tpt.

Tbn.

SH 1-hand trill between timbale shells

Perc. large superball ? Rub superball on tam-tam as continuously as possible. Prime for best sound. ?

Vln.

Vla. ord.

Vc. ord.

E. Sturgeon, drum fish & ice + water Water/ice (to 6:05) Elk

74 75 76

5:10

S. Sx. f

B♭ Tpt. f

Tbn. 3 3 3 3

Perc. 3 3 3 3

Vln. mp

Vla. mp

Vc. mp

E. Water/ice (to 6:05) Wolf and elk

77 78 79

5:23                    5:27                    5:30                    5:35

S. Sx.                    B♭ Tpt.                    Tbn.                    Perc.

B♭ Tpt.                    Tbn.                    Perc.                    Vln.

Tbn.                    Perc.                    Vln.                    Vla.

Perc.                    Vln.                    Vla.                    Vc.

Vln.                    Vla.                    Vc.                    E.

5:30                    ff                    Raspy vocal 'oh' about a step (or other dissonant interval) above these notes; growling sound.

Play pedal tone and sing raspy low note on syllable 'oh', create rumbling multiphonic. Take intermittent short breaks. Change pedal tones, increasingly aggressive

ff                    Tremolo on face, interrupt with short bursts of hits on rim using stick shoulders and moving sticks shaft to tip and back

ff                    chop                    ff                    chop                    ff                    chop

chop                    ff                    chop                    ff                    chop

ff                    Trout, drum & increasing ice

80                    81                    82                    83

5:40                    5:45                    5:50

S. Sx.                    B♭ Tpt.                    Tbn.                    Perc.

B♭ Tpt.                    Tbn.                    Perc.                    Vln.

Tbn.                    Perc.                    Vln.                    Vla.

Perc.                    Vln.                    Vla.                    Vc.

Vln.                    Vla.                    Vc.                    E.

ff                    Wild, shrieking glissandi

Increasing interruptions, gradually add more rim hits. Continue irregular bursts of normal hits. Move around drum face.

Add some hits on tam-tam, return to bass drum tremolos and rim hits.

Sprinkling of low, overpressure notes

Alternate harsh scrapes in regular position, with windshield-wiper vertical tremolos, and slow scrapes on IV with pivot bow position and sudden chops. Start relatively sparsely, gradually increase.

Ice crash                    Water/ice (to 6:05)

84                    85                    86

## 5:55 Screaming

Increasingly savage; Wild registral and timbral shifts.

S. Sx. Gradually add angry multiphonics, increase durations til the end.

cresc. possible

Increasingly dense; Mix pedal tones, glissandi, timbre trills and other rough sounds.

B♭ Tpt. cresc. possible

Harsh multiphonics, start sparsely, increase density Move down to pedal tones. Breathe/take breaks as needed.

cresc. possible

Continue mix of tam-tam & bass drum, just rolls on bass drum.

cresc. possible

Increase density and wildness, registral and timbral shifts, including scratch, overpressure, s.p, msp, chop, bow tremolo & more.

Vln. Hold last note

Vla.

Vc. L.V.

E. Crashing waves & ice fade.

87            88            89            90

PERUSAL SCORE, NOT FOR PERFORMANCE

### III. Spring: Reptile, Amphibians

Ominous

0:00                    0:05                    0:10

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

Slightly muffle bass drum.  
Snares off

Hold timbale stick & triangle beater in RH.

Use wire brush on timbale face, medium pressure; tremolo down and up across face for duration.

Use thin wooden dowel. Trill between shells; occasionally move within tension rods.

Rattlesnake

1                    2                    3

0:15                    0:20

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

Spring peepers (to 1:29)

pp                    cresc.

mf                    mp

sp                    mp

sp                    mp

Ricochet

mf

0:25

S. Sx. *mf*

B♭ Tpt. *mp* *mf*

Tbn.

Perc. *mf*

Vln. *mf*

Vla. *mf*

Vc. *f* pizz. *?* *?*

E.

0:30

*mp*

*mf* *f*

*mp*

*mf*

*mp*

*mf* *f*

*mp*

*mf* *f*

*mp*

*mf* *f*

6 7

A Luring

0:40

S. Sx. *mp* *mf*

B♭ Tpt.

Tbn. *mf*

Perc. *mf*

Vln. *mf*

Vla. *f* pizz.

Vc. *pizz.*

E. *pizz.*

Woodfrogs (to 1:55)

8 9

0:45

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln. arco

*mf*

Vla. arco

*mf*

arco

Vc.

*mf*

E.

0:50

*mf*

*p*

*p*

*p*

?

10

Spring peepers (to 1:30)

11

0:55

S. Sx.

*mf*

Gentle

*p*

B♭ Tpt.

*mf*

fltz. ord.

Tbn.

*mf*

*p*

*mp*

Perc.

*mp*

Vln.

*mf*

Vla.

*mf*

pizz.

Vc.

*mf*

E.

1:00

*mf*

1:05

*p*

*mp*

*mp*

*mp*

*p*

*mp*

*mp*

12

13

American toad (to 2:03)

14

1:10  
Jaunty

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

15 16 17

1:25

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

1:30  
B Worried

1 hand trill on each head with mallet shaft

sim.

f

s.p. 5

f s.p. 5

Gradual lake sound rise,  
American toad (to 2:03)  
and wood frogs

18 19

1:35

S. Sx.

B♭ Tpt.

Tbn.

Perc. 

Vln.

Vla.

Vc.

E.

1:40

fltz. ord. fltz. ord.

20 21



PERUSAL SCORE NOT FOR PERFORMANCE

1:45

S. Sx. *f*

B♭ Tpt.

Tbn.

Perc. 

Vln.

Vla.

Vc.

E.

1:50

3 6 3 6 3 6 3 6

pizz. arco *f* arco 3 6 3 6 3 6 3 6

22 23



PERUSAL SCORE NOT FOR PERFORMANCE

1:55                                                  2:00 **Tender**                                          2:03                                                  2:06

S. Sx.                                                      *mf*                                                    *p*                                                              *mp*

B♭ Tpt.                                                      —                                                      —                                                              —                                                                      —

Tbn.                                                      *mf*                                                              *p*

Perc.                                                              —                                                              —                                                              —                                                                      —

Vln.                                                              *mf*                                                              *p*

Vla.                                                              *mf*                                                              *p*

Vc.                                                              *mf*                                                              *p*

E.                                                                      —                                                              —                                                              —

Northern leopard  
frog (to 2:21)

24                                                                      25                                                              26                                                              27

2:11                                                          2:16                                                          2:19

S. Sx.                                                              —                                                              —                                                              —

B♭ Tpt.                                                              —                                                              —                                                              —

Tbn.                                                              —                                                              —                                                              —

Perc.                                                              ?                                                      *mf*

Vln.                                                              *mf*                                                              *mp*                                                              *mp*

Vla.                                                              *mf*                                                              *p*                                                              *mp*

Vc.                                                              *mf*                                                              *p*

E.                                                                      —                                                                      —                                                                      —

28                                                                      29                                                              30

2:22

C  
2:25 Nervous

2:30

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln. *mf*

Vla. *mf*

Vc. *mf*

E.

31 32 33

*PICKEREL FROG (to 3:15)*  
*QUIET LAKE SOUNDS (to 3:25)*

2:35

2:40

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln. *mf*

Vla. *mf*  
arco

Vc. *f*  
pizz.  
*mf*

E.

34 35

2:45

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

2:50

36

37

D 2:55

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

3:00

*f*

*flz.* *ord.*

*mf*

*mf*

*mf*

*pizz.* *arco*

*mf* *arco*

*pizz.* *arco*

*mf*

Mink frog (to 3:50)

3:05

38

39

40

3:10                    3:15                    3:20

S. Sx. 

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E. 

41                    42                    43

Green frog (to 4:15)

3:25                    3:30                    3:35

S. Sx. 

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E. 

44                    45                    46

3:40                    3:45                    3:50

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

Vc. 

E. 

47                    48                    49

3:55                    4:00                    4:05 With ever-increasing anxiety [E]

S. Sx. 

B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

Vc. 

E. 

50                    51                    52

4:10                                          4:15                                                  4:20

S. Sx. 

B♭ Tpt. fltz.                                                  

Tbn. 

Perc. 

Vln. arco 

Vla. 

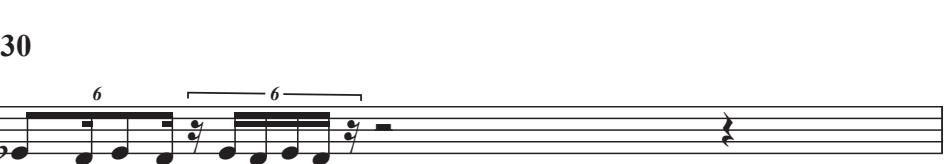
Vc. 

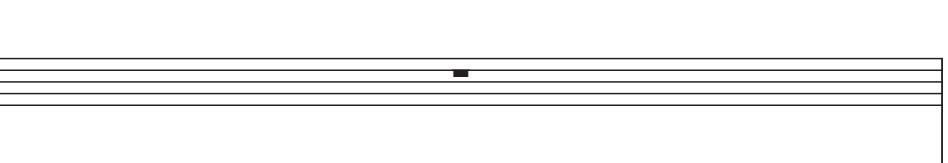
E.  

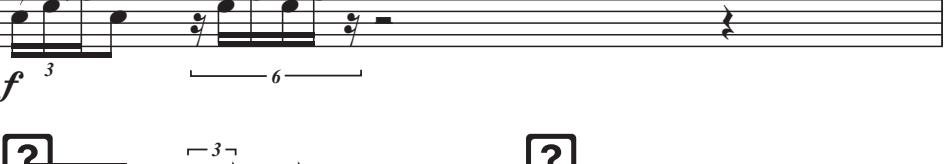
53                                          54                                                  55

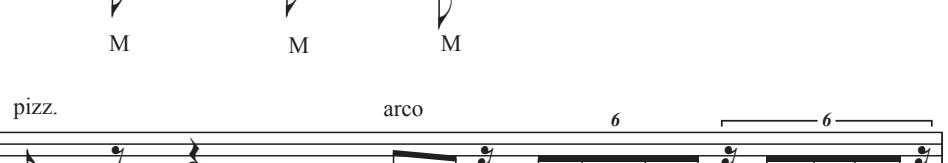
4:25                                          4:30

S. Sx. 

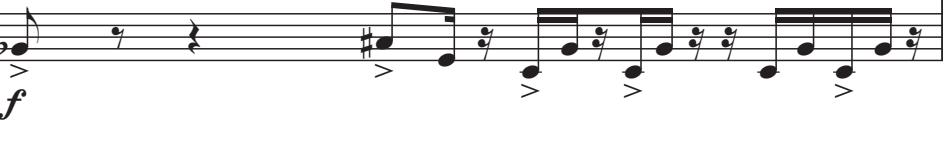
B♭ Tpt. 

Tbn. 

Perc. 

Vln. 

Vla. 

Vc. 

E. 

56                                          57

4:35                    4:40                    4:45

S. Sx. *f*  
B♭ Tpt. *f*  
Tbn. *f*  
Perc. *f* CS M M  
Vln. pizz. arco 6 6  
Vla. pizz. arco 6 6  
Vc. pizz. arco 6 6  
E.

58                    59                    60

4:50                    4:55                    5:00

S. Sx. *f*  
B♭ Tpt. *f*  
Tbn. *f*  
Perc. ? ? > \* x 3 , ? > = mf  
Vln. pizz. arco 3 = mf  
Vla. pizz. arco 3 = mf  
Vc. pizz. arco 3 = mf  
E. end woodfrogs

61                    62                    63

**F Struggling**

5:05

S. Sx. *f* 3

B♭ Tpt. *f* 3

Tbn. *f* 3

Perc. *f*

Vln.

Vla.

Vc.

E.

5:10

*mf*

*mf*

*mf*

Unmute bass drum

64

65

End of animal calls Gradual rise of lake sounds

**G Desperate**

5:15

S. Sx.

B♭ Tpt. *ff*

Tbn. *ff* 3

Perc. *ff* RS *f*

Vln. Chop *f*

Vla. Chop *f*

Vc. Chop *f*

E.

5:20

66

67

pizz.

pizz.

Intensification of lake sounds, waves continues 'til the end.

5:35

S. Sx. *ff*

B♭ Tpt. *ff* fltz. *ff* fltz.

Tbn. *ff* *f* *mf* *ord.* *f* *ff* *ff*

Perc. *ff* *f* *mf* *f* *ff*

Vln. *s.p.* *ff* *f* *mf* *ord.* *f* *ff*

Vla. *ff* *f* *mf* *ord.* *f* *ff*

Vc. *s.p.* *ff* *f* *mf* *f* *ff*

E. *ff*

5:40 Drowning

5:45

5:50

**5:55** S. Sx. Sneak breath as needed.

**6:00**

**6:05** Continue to hold instrument;  
Freeze last gesture.

B♭ Tpt. ord. Sneak breath as needed.

Tbn. ord. Sneak breath as needed.

Perc.

Vln.

Vla.

Vc.

E.

74                    75                    76

**6:10**

**6:15**

**10"**

**6:25**

S. Sx.

B♭ Tpt.

Tbn.

Perc.

Vln.

Vla.

Vc.

E.

Lakes sounds fade.

77                    78