

## APPENDIX 1. ICE HARBOR ADULT FISHWAY INSPECTIONS

North Fish Ladder										
Ladder Exit	YES	YES								
Ladder Weirs	YES	YES								
Counting Station	YES	YES								
Collection Channels										
South Shore	YES	YES								
North Powerhouse	YES	YES								
North Shore	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES
Weir Depths										
SFE 1	NO	YES	YES	YES	NO	NO	YES	NO	YES	NO
NFE 2	YES	YES								
NSE 1	YES	NO	SILL	YES						

CRITERIA POINTS: YES		(Output = 0, 1, or NA)									
Channel Velocities		1	0	1	1	1	1	1	1	1	1
Differentials											
South Fish Ladder											
Ladder Exit		1	1	1	1	1	1	1	1	1	1
Ladder Weirs		1	1	1	1	1	1	1	1	1	1
Counting Station		1	1	1	1	1	1	1	1	1	1
North Fish Ladder											
Ladder Exit		1	1	1	1	1	1	1	1	1	1
Ladder Weirs		1	1	1	1	1	1	1	1	1	1
Counting Station		1	1	1	1	1	1	1	1	1	1
Collection Channels											
South Shore		1	1	1	1	1	1	1	1	1	1
North Powerhouse		1	1	1	1	1	1	1	1	1	1
North Shore		1	1	1	1	0	1	1	1	0	1
Weir Depths											
SFE 1		0	1	1	1	0	0	1	0	1	0
NFE 2		1	1	1	1	1	1	1	1	1	1
NSE 1		1	1	1	1	1	1	1	0	0	1

CRITERIA POINTS: NO		(Output = 0, 1, or NA)									
Channel Velocities		0	1	0	0	0	0	0	0	0	0
Differentials											
South Fish Ladder											
Ladder Exit		0	0	0	0	0	0	0	0	0	0
Ladder Weirs		0	0	0	0	0	0	0	0	0	0
Counting Station		0	0	0	0	0	0	0	0	0	0
North Fish Ladder											
Ladder Exit		0	0	0	0	0	0	0	0	0	0
Ladder Weirs		0	0	0	0	0	0	0	0	0	0
Counting Station		0	0	0	0	0	0	0	0	0	0
Collection Channels											
South Shore		0	0	0	0	0	0	0	0	0	0
North Powerhouse		0	0	0	0	0	0	0	0	0	0
North Shore		0	0	0	0	1	0	0	0	1	0
Weir Depths											
SFE 1		1	0	0	0	1	1	0	1	0	1
NFE 2		0	0	0	0	0	0	0	0	0	0
NSE 1		0	0	0	0	0	0	0	1	0	0

CRITERIA POINTS: SILL		(Output = 0, 1, or NA)									
<b>Weir Depths</b>											
SFE 1		0	0	0	0	0	0	0	0	0	0
NFE 2		0	0	0	0	0	0	0	0	0	0
NSE 1		0	0	0	0	0	0	0	1	0	0

**OUT OF CRITERIA SITUATIONS BY INCREMENTS - THESE SHOULD MATCH THE "NOs" ABOVE.**

### South Ladder Differentials (more than 0.2 too low)

### South Ladder Differentials (0.11 - 0.2 too low)

### South Ladder Differentials (0.01 - 0.1 too low)

## South Ladder Differentials (0.01 - 0.1 too high)

## South Ladder Differentials (0.11 - 0.2 too high)

## South Ladder Differentials (more than 0.2 too high)

## North Ladder Differentials (more than 0.2 too low)

North Ladder Differentials (3.11 - 3.2 too low) Ladder Exit Not a

Ladder Exit

Ladder Exit 0







Counting Station	Not applicable.
<b>South Ladder Differentials (0.11 - 0.2 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0
Counting Station	Not applicable.

Counting Station	Not applicable.
<b>South Ladder Differentials (0.01 - 0.1 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0
Counting Station	Not applicable.







Counting Station	Not applicable.
<b>South Ladder Differentials (0.11 - 0.2 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0

Counting Station	Not applicable.
<b>South Ladder Differentials (0.01 - 0.1 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0

Counting Station	Not applicable.
<b>North Ladder Differentials (0.01 - 0.1 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0
Counting Station	Not applicable.

South Shore 0 0 0 0 0 0 0 0 0 0 0





<b>North Fish Ladder</b>										
Ladder Exit	YES									
Ladder Weirs	YES									
Counting Station	YES									
<b>Collection Channels</b>										
South Shore	YES									
North Powerhouse	YES									
North Shore	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES
<b>Weir Depths</b>										
SFE 1	YES	NO								
NFE 2	YES									
NSE 1	YES	YES	YES	NO	YES	YES	NO	YES	YES	YES

<b>CRITERIA POINTS: YES</b>										
<b>Channel Velocities</b>	1	1	0	1	1	0	1	0	1	1
<b>Differentials</b>										
<b>South Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>North Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>Collection Channels</b>										
South Shore	1	1	1	1	1	1	1	1	1	1
North Powerhouse	1	1	1	1	1	1	1	1	1	1
North Shore	1	1	1	0	1	1	1	1	1	1
<b>Weir Depths</b>										
SFE 1	1	1	1	1	1	1	1	1	1	0
NFE 2	1	1	1	1	1	1	1	1	1	1
NSE 1	1	1	1	0	1	1	0	1	1	1

<b>CRITERIA POINTS: NO</b>										
<b>(Output = 0, 1, or NA)</b>										
<b>Channel Velocities</b>	0	0	1	0	0	1	0	1	0	0
<b>Differentials</b>										
<b>South Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>North Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>Collection Channels</b>										
South Shore	0	0	0	0	0	0	0	0	0	0
North Powerhouse	0	0	0	0	0	0	0	0	0	0
North Shore	0	0	0	1	0	0	0	0	0	0
<b>Weir Depths</b>										
SFE 1	0	0	0	0	0	0	0	0	0	1
NFE 2	0	0	0	0	0	0	0	0	0	0
NSE 1	0	0	0	1	0	0	1	0	0	0







<b>North Fish Ladder</b>	YES									
Ladder Exit	YES									
Ladder Weirs	YES									
Counting Station	YES									
<b>Collection Channels</b>										
South Shore	YES									
North Powerhouse	YES									
North Shore	YES									
<b>Weir Depths</b>										
SFE 1	YES	YES	YES	NO	YES	NO	YES	YES	YES	YES
NFE 2	YES									
NSE 1	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES
<b>CRITERIA POINTS: YES</b>										
Channel Velocities	1	1	1	1	1	1	1	1	1	1
Differentials										
<b>South Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>North Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>Collection Channels</b>										
South Shore	1	1	1	1	1	1	1	1	1	1
North Powerhouse	1	1	1	1	1	1	1	1	1	1
North Shore	1	1	1	1	1	1	1	1	1	1
<b>Weir Depths</b>										
SFE 1	1	1	1	0	1	0	1	1	1	1
NFE 2	1	1	1	1	1	1	1	1	1	1
NSE 1	1	1	1	0	1	1	1	1	1	1

<b>CRITERIA POINTS: NO</b>	<b>(Output = 0, 1, or NA)</b>									
Channel Velocities	0	0	0	0	0	0	0	0	0	0
Differentials										
<b>South Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>North Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>Collection Channels</b>										
South Shore	0	0	0	0	0	0	0	0	0	0
North Powerhouse	0	0	0	0	0	0	0	0	0	0
North Shore	0	0	0	0	0	0	0	0	0	0
<b>Weir Depths</b>										
SFE 1	0	0	0	1	0	1	0	0	0	0
NFE 2	0	0	0	0	0	0	0	0	0	0
NSE 1	0	0	0	1	0	0	0	0	0	0

Counting Station	Not applicable.
<b>South Ladder Differentials (0.11 - 0.2 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0

Counting Station	Not applicable.
<b>South Ladder Differentials (0.01 - 0.1 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0
Counting Station	Not applicable.





<b>North Fish Ladder</b>	YES	YES	YES	YES						
Ladder Exit	YES	YES	YES	YES						
Ladder Weirs	YES	YES	YES	YES						
Counting Station	YES	YES	YES	YES						
<b>Collection Channels</b>										
South Shore	YES	YES	YES	YES						
North Powerhouse	YES	YES	YES	YES						
North Shore	YES	YES	NO	YES	NO	YES	YES	YES	YES	YES
<b>Weir Depths</b>										
SFE 1	YES	YES	YES	YES	NO	NO	YES	YES	YES	YES
NFE 2	YES	YES	YES	YES						
NSE 1	YES	YES	NO	NO	NO	NO	SILL	SILL	SILL	YES

<b>CRITERIA POINTS: YES</b>	<b>(Output = 0, 1, or NA)</b>									
<b>Channel Velocities</b>	1	1	1	1	1	1	1	1	1	1
<b>Differentials</b>										
<b>South Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>North Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>Collection Channels</b>										
South Shore	1	1	1	1	1	1	1	1	1	1
North Powerhouse	1	1	1	1	1	1	1	1	1	1
North Shore	1	1	0	1	0	1	1	1	1	1
<b>Weir Depths</b>										
SFE 1	1	1	1	1	0	0	1	1	1	1
NFE 2	1	1	1	1	1	1	1	1	1	1
NSE 1	1	1	0	0	0	0	0	0	0	1

<b>CRITERIA POINTS: NO</b>	<b>(Output = 0, 1, or NA)</b>									
<b>Channel Velocities</b>	0	0	0	0	0	0	0	0	0	0
<b>Differentials</b>										
<b>South Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>North Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>Collection Channels</b>										
South Shore	0	0	0	0	0	0	0	0	0	0
North Powerhouse	0	0	0	0	0	0	0	0	0	0
North Shore	0	0	1	0	1	0	0	0	0	0
<b>Weir Depths</b>										
SFE 1	0	0	0	0	1	1	0	0	0	0
NFE 2	0	0	0	0	0	0	0	0	0	0
NSE 1	0	0	1	1	1	1	0	0	0	0

CRITERIA POINTS:											
SILL (Output = 0, 1, or NA)											
Weir Depths											
SFE 1	0	0	0	0	0	0	0	0	0	0	0
NFE 2	0	0	0	0	0	0	0	0	0	0	0
NSE 1	0	0	0	0	0	0	1	1	1	1	0

Counting Station	Not applicable.
<b>South Ladder Differentials (0.11 - 0.2 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0

Counting Station	Not applicable.
<b>South Ladder Differentials (0.01 - 0.1 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0
Counting Station	Not applicable.





North Fish Ladder										
Ladder Exit	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Counting Station	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Collection Channels										
South Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Powerhouse	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Weir Depths										
SFE 1	SILL	SILL	YES	YES	YES	YES	SILL	SILL	SILL	SILL
NFE 2	SILL	SILL	YES	YES	YES	YES	SILL	SILL	SILL	SILL
NSE 1	SILL	SILL	SILL	SILL	YES	SILL	SILL	SILL	SILL	SILL

CRITERIA POINTS: YES		(Output = 0, 1, or NA)									
Channel Velocities	1	1	1	1	1	1	1	1	1	1	1
Differentials											
<b>South Fish Ladder</b>											
Ladder Exit	1	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1	1
<b>North Fish Ladder</b>											
Ladder Exit	1	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1	1
<b>Collection Channels</b>											
South Shore	1	1	1	1	1	1	1	1	1	1	1
North Powerhouse	1	1	1	1	1	1	1	1	1	1	1
North Shore	1	1	1	1	1	1	1	1	1	1	1
<b>Weir Depths</b>											
SFE 1	1	0	1	1	1	1	0	0	0	0	0
NFE 2	1	0	1	1	1	1	0	0	0	0	0
NSE 1	1	0	0	0	1	0	0	0	0	0	0

CRITERIA POINTS:		(Output = 0, 1, or NA)									
SILL	Weir Depths	0	1	0	0	0	0	1	1	1	1
SFE 1		0	1	0	0	0	0	1	1	1	1
NFE 2		0	1	0	0	0	0	1	1	1	1
NSE 1		0	1	1	1	0	1	1	1	1	1

Counting Station	Not applicable.
<b>South Ladder Differentials (0.11 - 0.2 too low)</b>	
Ladder Exit	Not applicable.
Ladder Weirs	0 0 0 0 0 0 0 0 0 0

<b>North Ladder Differentials (0.01 - 0.1 too low)</b>									
Ladder Exit	Not applicable.								
Ladder Weirs	0	0	0	0	0	0	0	0	0
Counting Station	Not applicable.								













<b>North Fish Ladder</b>	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES
Ladder Exit	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Counting Station	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
<b>Collection Channels</b>										
South Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Powerhouse	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
<b>Weir Depths</b>										
SFE 1	SILL	YES	YES	SILL	YES	YES	YES	SILL	SILL	SILL
NFE 2	YES	SILL	YES	SILL	YES	YES	YES	SILL	SILL	YES
NSE 1	NO	YES	NO	SILL	YES	YES	YES	SILL	SILL	SILL

<b>CRITERIA POINTS: YES</b>	<b>(Output = 0, 1, or NA)</b>									
Channel Velocities	1	1	1	1	1	1	1	1	1	1
Differentials										
<b>South Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>North Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	0	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>Collection Channels</b>										
South Shore	1	1	1	1	1	1	1	1	1	1
North Powerhouse	1	1	1	1	1	1	1	1	1	1
North Shore	1	1	1	1	1	1	1	1	1	1
<b>Weir Depths</b>										
SFE 1	0	0	1	0	1	1	1	0	0	0
NFE 2	0	0	1	0	1	1	1	0	0	1
NSE 1	0	0	0	0	1	1	1	0	0	0

<b>CRITERIA POINTS: NO</b>	<b>(Output = 0, 1, or NA)</b>									
Channel Velocities	0	0	0	0	0	0	0	0	0	0
Differentials										
<b>South Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>North Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	1	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>Collection Channels</b>										
South Shore	0	0	0	0	0	0	0	0	0	0
North Powerhouse	0	0	0	0	0	0	0	0	0	0
North Shore	0	0	0	0	0	0	0	0	0	0
<b>Weir Depths</b>										
SFE 1	0	0	0	0	0	0	0	0	0	0
NFE 2	0	0	0	0	0	0	0	0	0	0
NSE 1	1	1	1	0	0	0	0	0	0	0

CRITERIA POINTS:		(Output = 0, 1, or NA)									
SILL	Weir Depths	1	1	0	1	0	0	0	1	1	1
SFE 1		1	1	0	1	0	0	0	1	1	1
NFE 2		1	1	0	1	0	0	0	1	1	0
NSE 1		0	0	0	1	0	0	0	1	1	1





<b>North Fish Ladder</b>	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ladder Exit	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Counting Station	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
<b>Collection Channels</b>										
South Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Powerhouse	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
<b>Weir Depths</b>										
SFE 1	YES	YES	YES	SILL	SILL	SILL	SILL	SILL	SILL	YES
NFE 2	YES	YES	YES	SILL	SILL	SILL	SILL	SILL	SILL	YES
NSE 1	YES	YES	YES	NO	NO	NO	SILL	SILL	SILL	YES

<b>CRITERIA POINTS: YES</b>	<b>(Output = 0, 1, or NA)</b>									
Channel Velocities	1	1	1	1	1	1	1	1	1	1
Differentials										
<b>South Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>North Fish Ladder</b>										
Ladder Exit	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1
<b>Collection Channels</b>										
South Shore	1	1	1	1	1	1	1	1	1	1
North Powerhouse	1	1	1	1	1	1	1	1	1	1
North Shore	1	1	1	1	1	1	1	1	1	1
<b>Weir Depths</b>										
SFE 1	0	0	1	0	0	0	0	0	0	1
NFE 2	0	1	1	0	0	0	0	0	0	1
NSE 1	0	0	1	0	0	0	0	0	0	1

<b>CRITERIA POINTS: NO</b>	<b>(Output = 0, 1, or NA)</b>									
Channel Velocities	0	0	0	0	0	0	0	0	0	0
Differentials										
<b>South Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>North Fish Ladder</b>										
Ladder Exit	0	0	0	0	0	0	0	0	0	0
Ladder Weirs	0	0	0	0	0	0	0	0	0	0
Counting Station	0	0	0	0	0	0	0	0	0	0
<b>Collection Channels</b>										
South Shore	0	0	0	0	0	0	0	0	0	0
North Powerhouse	0	0	0	0	0	0	0	0	0	0
North Shore	0	0	0	0	0	0	0	0	0	0
<b>Weir Depths</b>										
SFE 1	0	0	0	0	0	0	0	0	0	0
NFE 2	0	0	0	0	0	0	0	0	0	0
NSE 1	0	0	0	1	1	1	1	0	0	0

CRITERIA POINTS:		(Output = 0, 1, or NA)									
SILL	Weir Depths	1	1	0	1	1	1	1	1	1	0
SFE 1		1	1	0	1	1	1	1	1	1	0
NFE 2		1	0	0	1	1	1	1	1	1	0
NSE 1		1	1	0	0	0	0	0	1	1	0

Counting Station Not applicable.  
**South Ladder Differentials (0.01 - 0.1 too low)**  
Ladder Exit Not applicable.  
L-11, W-1 0 0 0 0 0 0 0 0 0 0 0

Counting Station Not applicable.  
**North Ladder Differentials (0.11 - 0.2 too low)**  
Ladder Exit Not applicable.





North Fish Ladder										
Ladder Exit	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Counting Station	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Collection Channels										
South Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
North Powerhouse	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Weir Depths										
SFE 1	SILL	YES	SILL	SILL	SILL	SILL	SILL	SILL	YES	SILL
NFE 2	SILL	YES	SILL	SILL	SILL	SILL	SILL	SILL	YES	SILL
NSE 1	NO	YES	NO	SILL	SILL	SILL	SILL	SILL	YES	SILL

CRITERIA POINTS: YES		(Output = 0, 1, or NA)									
Channel Velocities	1	1	1	1	1	1	1	1	1	1	1
Differentials											
South Fish Ladder											
Ladder Exit	1	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1	1
North Fish Ladder											
Ladder Exit	1	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1	1
Collection Channels											
South Shore	1	1	1	1	1	1	1	1	1	1	0
North Powerhouse	1	1	1	1	1	1	1	1	1	1	1
North Shore	1	1	1	1	1	1	1	1	1	1	1
Weir Depths											
SFE 1	0	1	0	0	0	0	0	0	1	0	0
NFE 2	0	1	0	0	0	0	0	0	1	0	0
NSE 1	0	1	0	0	0	0	0	0	1	0	0

Weir Depths										
SFE 1	0	0	0	0	0	0	0	0	0	0
NFE 2	0	0	0	0	0	0	0	0	0	0
NSE 1	0	0	1	0	0	0	0	0	0	0
CRITERIA POINTS:										
SILL	(Output = 0, 1, or NA)									
Weir Depths										
SFE 1	1	0	1	1	1	1	1	1	0	1
NFE 2	1	0	1	1	1	1	1	1	0	1
NSE 1	1	0	0	1	1	1	1	1	0	1





North Fish Ladder										
Ladder Exit	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Counting Station	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Collection Channels										
South Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Powerhouse	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Weir Depths										
SFE 1	YES	SILL	SILL	SILL	YES	YES	YES	SILL	YES	YES
NFE 2	SILL	SILL	SILL	SILL	YES	YES	YES	SILL	YES	YES
NSE 1	SILL	SILL	SILL	SILL	YES	YES	YES	SILL	SILL	YES

CRITERIA POINTS: YES		(Output = 0, 1, or NA)									
Channel Velocities	1	1	1	1	1	1	1	1	1	1	1
Differentials											
South Fish Ladder											
Ladder Exit	1	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1	1
North Fish Ladder											
Ladder Exit	1	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1	1
Counting Station	1	1	1	1	1	1	1	1	1	1	1
Collection Channels											
South Shore	1	1	1	1	1	1	1	1	1	1	1
North Powerhouse	1	1	1	1	1	1	1	1	1	1	1
North Shore	1	1	1	1	1	1	1	1	1	1	1
Weir Depths											
SFE 1	1	0	0	0	1	1	1	0	1	1	1
NFE 2	0	0	0	0	1	1	1	0	1	1	1
NSE 1	0	0	0	0	1	1	1	0	0	0	1

CRITERIA POINTS:											
SILL	(Output = 0, 1, or NA)										
Weir Depths											
SFE 1	0	1	1	1	0	0	0	1	0	0	
NFE 2	1	1	1	1	0	0	0	1	0	0	
NSE 1	1	1	1	1	0	0	0	1	1	0	

### South Ladder Differentials (more than 0.2 too low)

### South Ladder Differentials (0.11 - 0.2 too low)

### South Ladder Differentials (0.01 - 0.1 too low)

### South Ladder Differentials (0.01 - 0.1 too high)

### South Ladder Differentials (0.11 - 0.2 too high)

### South Ladder Differentials (more than 0.2 too high)

### North Ladder Differentials (more than 0.2 too low)

### North Ladder Differentials (0.11 - 0.2 too low)

## North Ladder Differentials (0.01 - 0.1 too low)

## North Ladder Differentials (0.01 - 0.1 too high)

## North Ladder Differentials (0.11 - 0.2 too high)



**APPENDIX 1. ICE HARBOR ADULT FISHWAY INSPECTIONS**

<b>DATES:</b>	7-Dec	11-Dec	12-Dec	13-Dec	18-Dec	19-Dec	21-Dec	26-Dec	27-Dec
<b>CHANNEL VELOCITIES</b>									
<b>IN SOUTH FISHWAY:</b>									
	2.3	2.5	2.3	2.3	3.1	2.3	2.7	2.2	3.2
<b>ELEVATIONS:</b>									
<b>South Fish Ladder</b>									
Forebay	439.3	438.8	438.9	438.6	438.4	439	438.7	438.4	439.5
Exit Pool	439.3	438.7	438.9	438.6	438.4	439	438.7	438.3	439.4
Makeup Diffuser	434.3	434.3	434.3	434.3	434.3	434.3	434.3	434.3	434.3
U S Picketed Leads	381.2	381.2	381.2	381.2	381.2	381.2	381.2	381.2	381.2
D S Picketed Leads	381.2	381.2	381.2	381.2	381.2	381.2	381.2	381.2	381.2
<b>North Fish Ladder</b>									
Forebay	439.4	438.7	438.9	438.6	438.2	438.9	438.6	438.3	439.5
Exit Pool	439.4	438.7	438.9	438.7	438.2	439	438.7	438.4	439.5
Makeup Diffuser	434.2	434.2	434.1	434.2	434.1	434.2	434.1	434.2	434.2
U S Picketed Leads	434.2	434.2	434.1	434.2	434.1	434.2	434.1	434.2	434.2
D S Picketed Leads	434.2	434.2	434.1	434.2	434.1	434.2	434.1	434.2	434.2
<b>Collection Channels</b>									
South Pwrh SG4	343	342.5	343.4	342.8	341.3	342.6	343.2	342.4	341.8
North Pwrh SG2	342.5	342.1	342.7	342.1	340.7	342	342.6	341.8	341.4
North Shore SG30	342.5	342.1	342.5	342.3	341	342.1	342.6	342	341.9
<b>Tailwater</b>									
South Pwrh SG3	341.3	340.8	341.6	341.1	339	340.8	341.5	340.7	340.1
North Pwrh SG1	341.3	340.8	341.6	341	339	340.7	341.5	340.7	340.2
North Shore SG29	341.2	340.8	341.4	340.8	339.1	340.8	341.4	340.8	340.3
<b>Entrance Weirs</b>									
SFE 1	332.4	332.3	332.7	332.3	332.3	332.3	333.3	332.5	332.3
NFE 2	332.3	332.3	332.3	332.3	332.3	332.3	332.3	332.3	332.3
NSE 1	332.3	332.3	332.3	332.3	332.3	332.3	332.3	332.3	332.3
<b>DIFFERENTIALS/DEPTHES:</b>									
<b>South Fish Ladder</b>									
Ladder Exit	0	0.1	0	0	0	0	0	0.1	0.1
Ladder Weirs	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Counting Station	0	0	0	0	0	0	0	0	0
<b>North Fish Ladder</b>									
Ladder Exit	0	0	0	-0.1	0	-0.1	-0.1	-0.1	0
Ladder Weirs	1.2	1.2	1.1	1.2	1.1	1.2	1.1	1.2	1.2
Counting Station	0	0	0	0	0	0	0	0	0
<b>Collection Channels</b>									
South Shore	1.7	1.7	1.8	1.7	2.3	1.8	1.7	1.7	1.7
North Powerhouse	1.2	1.3	1.1	1.1	1.7	1.3	1.1	1.1	1.2
North Shore	1.3	1.3	1.1	1.5	1.9	1.3	1.2	1.2	1.6
<b>Weir Depths</b>									
SFE 1	8.9	8.5	8.9	8.8	6.7	8.5	8.2	8.2	7.8
NFE 2	9	8.5	9.3	8.7	6.7	8.4	9.2	8.4	7.9
NSE 1	8.9	8.5	9.1	8.5	6.8	8.5	9.1	8.5	8

CRITERIA POINTS:										
Channel Velocities	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Differentials										
South Fish Ladder										
Ladder Exit	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Counting Station	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
North Fish Ladder										
Ladder Exit	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Counting Station	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Collection Channels										
South Shore	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO
North Powerhouse	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
North Shore	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Weir Depths										
SFE 1	YES	YES	YES	YES	SILL	YES	YES	YES	SILL	SILL
NFE 2	YES	YES	YES	YES	SILL	YES	YES	YES	SILL	SILL
NSE 1	YES	YES	YES	YES	SILL	YES	YES	YES	YES	SILL

CRITERIA POINTS: YES		(Output = 0, 1, or NA)									
Channel Velocities	1	1	1	1	1	1	1	1	1	1	0
Differentials											
South Fish Ladder											
Ladder Exit	1	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1	0
Counting Station	1	1	1	1	1	1	1	1	1	1	1
North Fish Ladder											
Ladder Exit	1	1	1	1	1	1	1	1	1	1	1
Ladder Weirs	1	1	1	1	1	1	1	1	1	1	0
Counting Station	1	1	1	1	1	1	1	1	1	1	1
Collection Channels											
South Shore	1	1	1	1	0	1	1	1	1	1	0
North Powerhouse	1	1	1	1	1	1	1	1	1	1	0
North Shore	1	1	1	1	1	1	1	1	1	1	0
Weir Depths											
SFE 1	1	1	1	1	0	1	1	1	0	0	0
NFE 2	1	1	1	1	0	1	1	1	0	0	0
NSE 1	1	1	1	1	0	1	1	1	1	1	0







ICE HARBOR	Criteria and Locations	Not Enough Depth-----				Too Much Depth-----			
		---		---		---		---	
		No. in Criteria/	% In Criteria/	No./%	No./%	No./%	No./%	No./%	No./%
		No. on Sill/	% On Sill/	0.01-0.1	0.11-0.2	>0.2 Foot	0.01-0.1	0.11-0.2 Foot	>0.2 Foot
No. of Inspections		No. Sill	Foot	Foot	Foot	Foot	Foot	Foot	Foot
Channel Velocities		115	88.5	***	***	***	***	***	***
		***	***	***	***	***	***	***	***
		130							
Differentials									
South Fish Ladder									
Ladder Exit		130	100.0	***	***	***	0	0	0
		***	***	***	***	***	0.0	0.0	0.0
		130							
Ladder Weirs		130	100.0	0	0	0	0	0	0
		***	***	0.0	0.0	0.0	0.0	0.0	0.0
		130							
Counting Station		130	100.0	***	***	***	0	0	0
		***	***	***	***	***	0.0	0.0	0.0
		130							
North Fish Ladder									
Ladder Exit		129	99.2	***	***	***	0	0	1
		***	***	***	***	***	0.0	0.0	0.8
		130							
Ladder Weirs		130	100.0	0	0	0	0	0	0
		***	***	0.0	0.0	0.0	0.0	0.0	0.0
		130							
Counting Station			0.0	***	***	***	0	0	0
		***	***	***	***	***	0.0	0.0	0.0
		130							
Collection Channels									
South Shore		127	97.7	0	0	0	0	1	2
		***	***	0.0	0.0	0.0	0.0	0.8	1.5
		130							
North Powerhouse		129	99.2	0	0	0	1	0	0
		***	***	0.0	0.0	0.0	0.8	0.0	0.0
		130							
North Shore		122	93.8	0	0	3	0	0	5
		***	***	0.0	0.0	2.3	0.0	0.0	3.8
		130							
Weir Depths									
SFE 1		75	57.7	0	0	0	***	***	***
		43	33.1	0.0	0.0	0.0	***	***	***
		130							
NFE 2		87	66.9	0	1	0	***	***	***
		42	32.3	0.0	0.8	0.0	***	***	***
		130							
NSE 1		69	53.1	12	0	19	***	***	***
		42	32.3	9.2	0.0	14.6	***	***	***
		130							