



Freeze Motion



Blur Motion

## Shutter Speed

Composing with time.

## Shutter Speed

1/8

1/15

1/30

1/60

1/125

1/250

1/500

1/1000

## Aperture

1.4

f2, f2.8

f4

f5.6

f8

f11

f16

f22

Shutter speed and aperture (and ISO) work together to create proper exposure by controlling the amount of light that hits the sensor.

In general, if you increase shutter speed you should decrease the aperture in order to maintain proper exposure.

Example: An exposure of 1/30 sec. at F11 has the same amount of light as 1/60 sec. at F8.

# Composing with Time



Using shutter speed as a compositional tool  
to stop or blur the action



1/400th sec.

**Fast shutter speeds help you freeze the action**



1/1000th sec.

Lower your f-stop and/or increase ISO if necessary.



1/1000th sec.





## How to Create Long Exposures with Neutral Density Filter

Dark filter reduces light coming through lens.

Strength of filter corresponds  
to the amount light is reduced.

8-stop ND filter reduces light by 8-stops.

# How to use it

You may have to focus first...then add filter.

Live view with exposure simulation  
may allow you to focus with filter.

Auto exposure may not work.  
May have to use manual focus.

Use manual exposure or Aperture Priority  
with Exposure Compensation to increase  
exposure by number of filter stops, eg -  
over expose by 8 stops if using an 8-stop ND filter.

Adjust ISO, aperture and shutter speed  
to control blurring effect.

Use a tripod.

# What I do

Tripod.

8 or 10-stop ND filter.

Manual exposure. Start with F11, ISO 100-800.

Adjust shutter speed until exposure looks bright enough on LCD screen.

Take a test shot.

Experiment with shutter speed and ISO for different effects.

For smooth water:

Longer shutter speed (30secs. +/-) and lower ISO.

For rougher water/more texture:

Shorter shutter speed and higher ISO.

# How to Create Long Exposures (without neutral density filter)

## In Aperture Priority

Set lowest ISO and highest f-step to get longest shutter speed.

Adjust aperture, ISO and/or Exposure compensation to speed up or slow down shutter speed.

## In Manual Exposure

Set lowest ISO and highest f-step to get longest shutter speed.

Adjust aperture and/or ISO to speed up or slow down shutter speed.



2 secs.



12 secs.



6 secs.



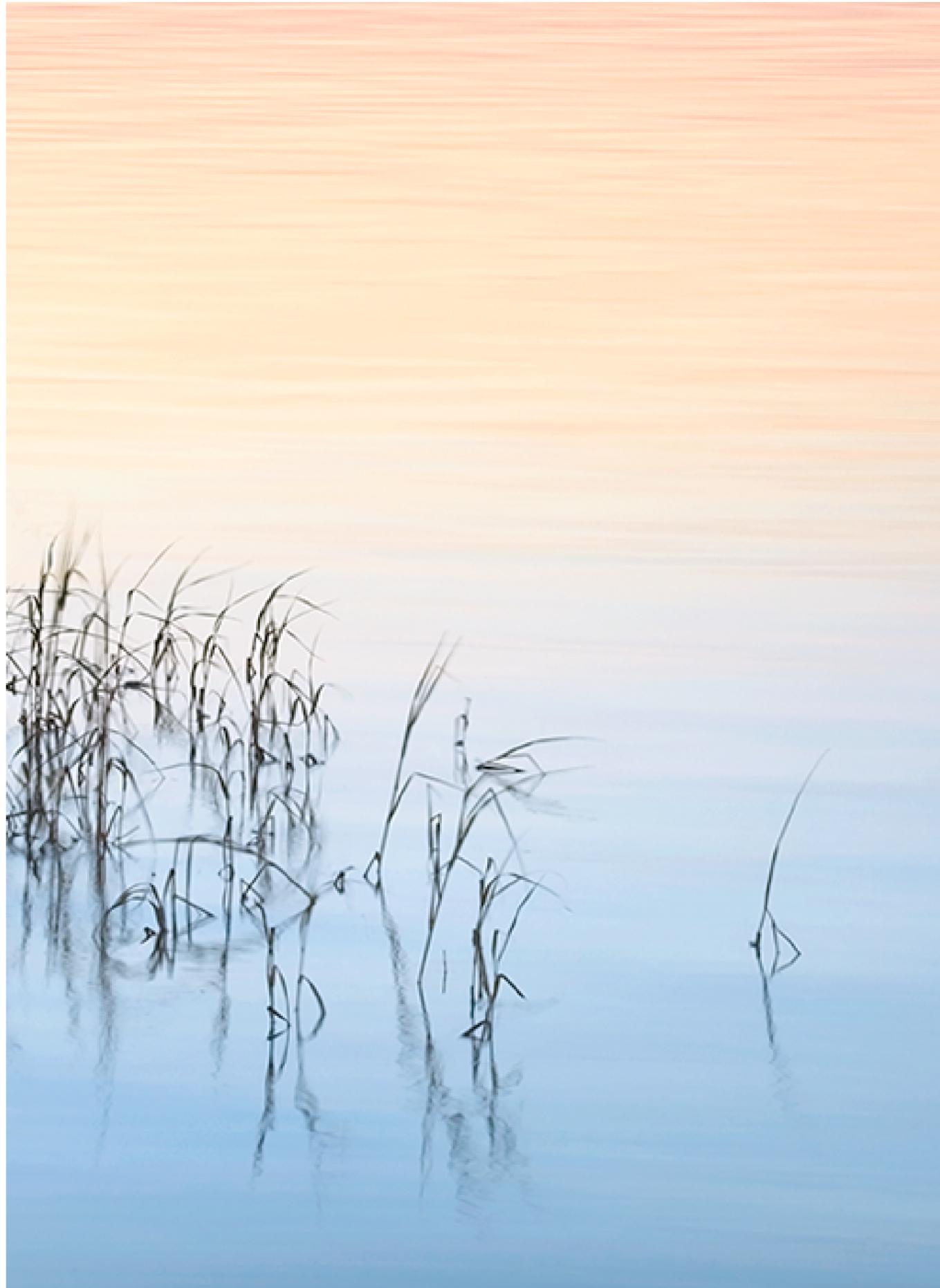
John Tunney Photography



Blurring the action.



5 secs.



3 secs.



30 secs.



1/800 sec



1/800 sec



1/100 sec



1/250 sec.



1/250 sec.



1/30 sec.



1/250 sec.



1/30 sec.



1/8 sec.



1/40th Second



15 Seconds with Neutral Density Filter



1/2000th sec.



1 sec.

1/200th sec.



1 sec.





1/50th sec.



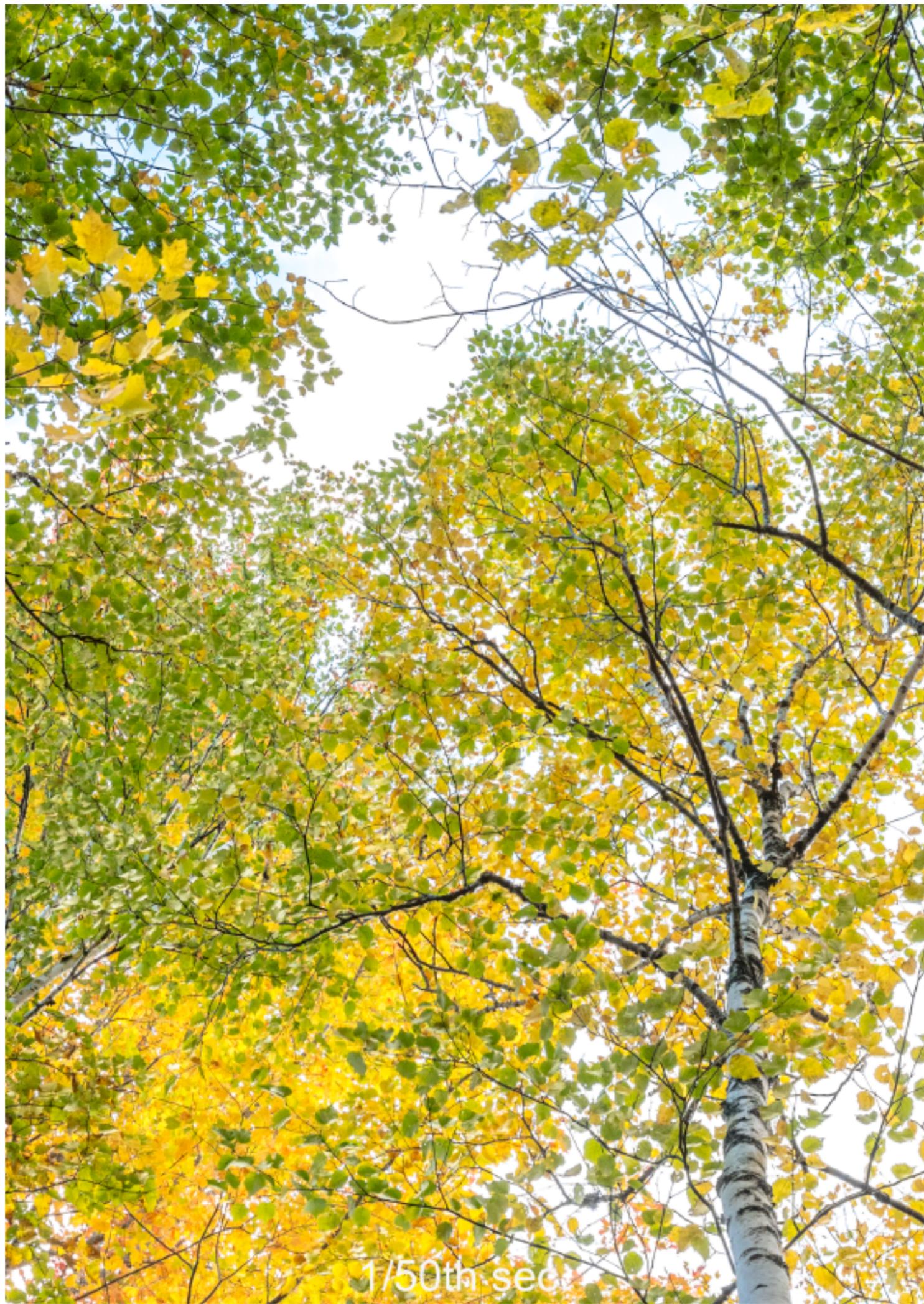
1/50th sec.



1/4 sec.



1/60 sec.



1/50th sec



15 secs.



1/10th sec.



1/10th sec.



6/10th sec.



1/160 sec., F9, ISO 800



1/10 sec., F9, ISO 800



0.4 secs., F9, ISO 800



15 secs., F9, ISO 800



F2.8, 13 secs., ISO 2000



1 sec., F11, ISO 2000.

**Not just about blurring...**



STOP ACTION



## STOP ACTION

- Fast Shutter Speed  
1/250 +



## STOP ACTION

- Fast Shutter Speed  
1/250 +
- High ISO  
400, 800, 1200, 1600



## STOP ACTION

- Fast Shutter Speed  
1/250 +
- High ISO  
400, 800, 1200, 160



## BLURRED ACTION





## STOP ACTION

- Fast Shutter Speed  
1/250 +
- High ISO  
400, 800, 1200, 160



## BLURRED ACTION

- Low Shutter Speed





## STOP ACTION

- Fast Shutter Speed  
1/250 +
- High ISO  
400, 800, 1200, 160



## BLURRED ACTION

- Low Shutter Speed
- Low ISO (100)





## STOP ACTION

- Fast Shutter Speed  
1/250 +
- High ISO  
400, 800, 1200, 1600

## BLURRED ACTION

- Low Shutter Speed
- Low ISO (100)
- Neutral Density Filter
- Tripod



## Working with Shutter Speed

Use Aperture or Shutter Priority Mode

Fast to freeze -- 1/250th or more

Slow to blur -- 1/30 or less

Adjust ISO as needed

Use Tripod for slow shutter speed

Neutral density filter reduces light,  
increasing shutter speed



## Homework

Experiment with fast and slow shutter speed.

Freeze the action - Fast shutter speed.

Aperture or Shutter Priority. Start at around 1/500th sec.

You may need a low f-stop (f5.6, f4, etc.). Use Auto ISO.

Blur motion - Slow shutter speed.

Aperture or Shutter Priority. Use lowest ISO

and highest f-stop. Check shutter speed.

