

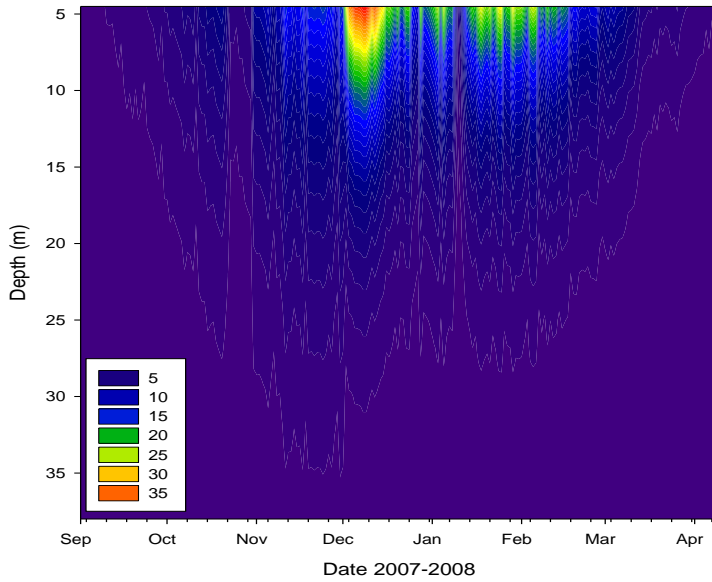
# PAR data and other Limno Data Updates



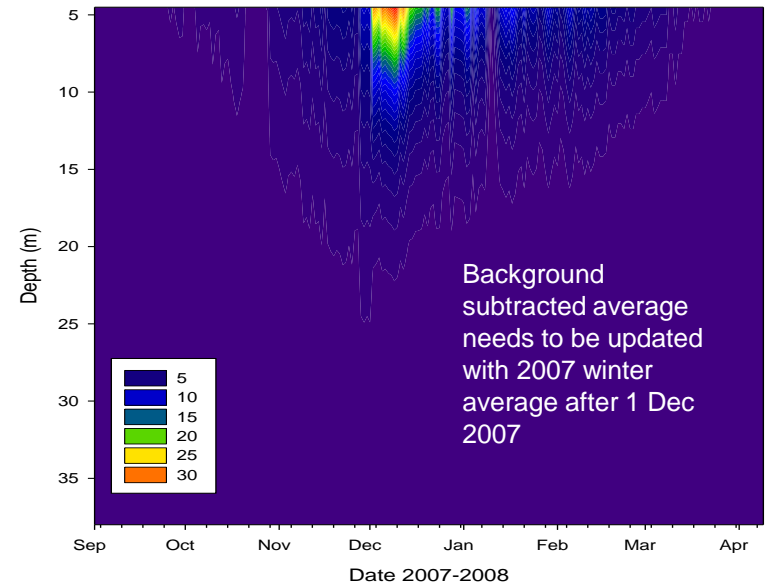
Amy Chiuchiolo

# Extended Season "Blue Box" UW Logged PAR

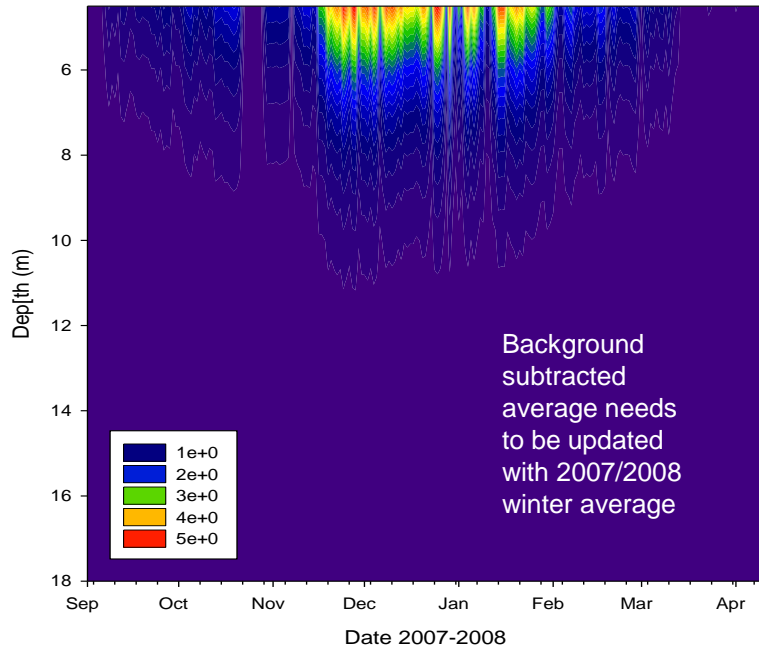
ELB under-ice PAR ( $\mu\text{mol}/\text{m}^2/\text{s}^{-1}$ )



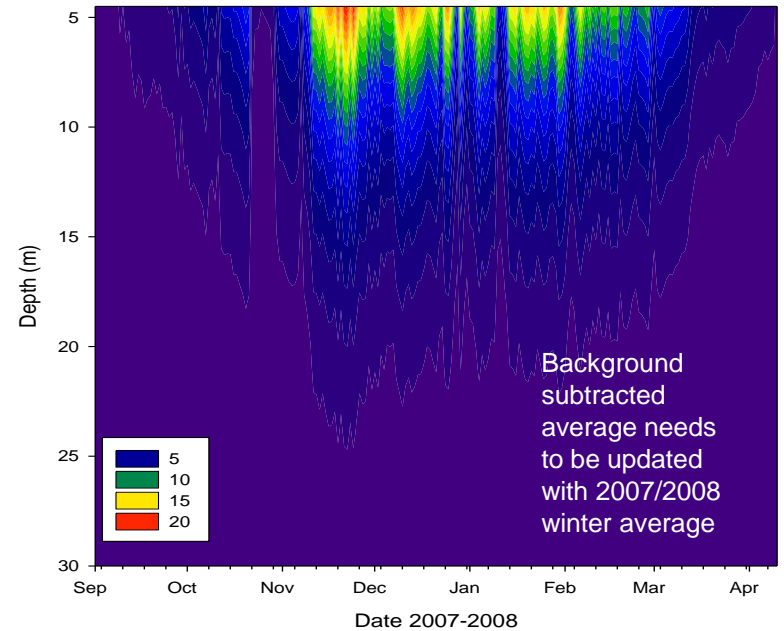
WLB under-ice PAR ( $\mu\text{mol}/\text{m}^2/\text{s}^{-1}$ )



FRX under-ice PAR ( $\mu\text{mol}/\text{m}^2/\text{s}^{-1}$ )



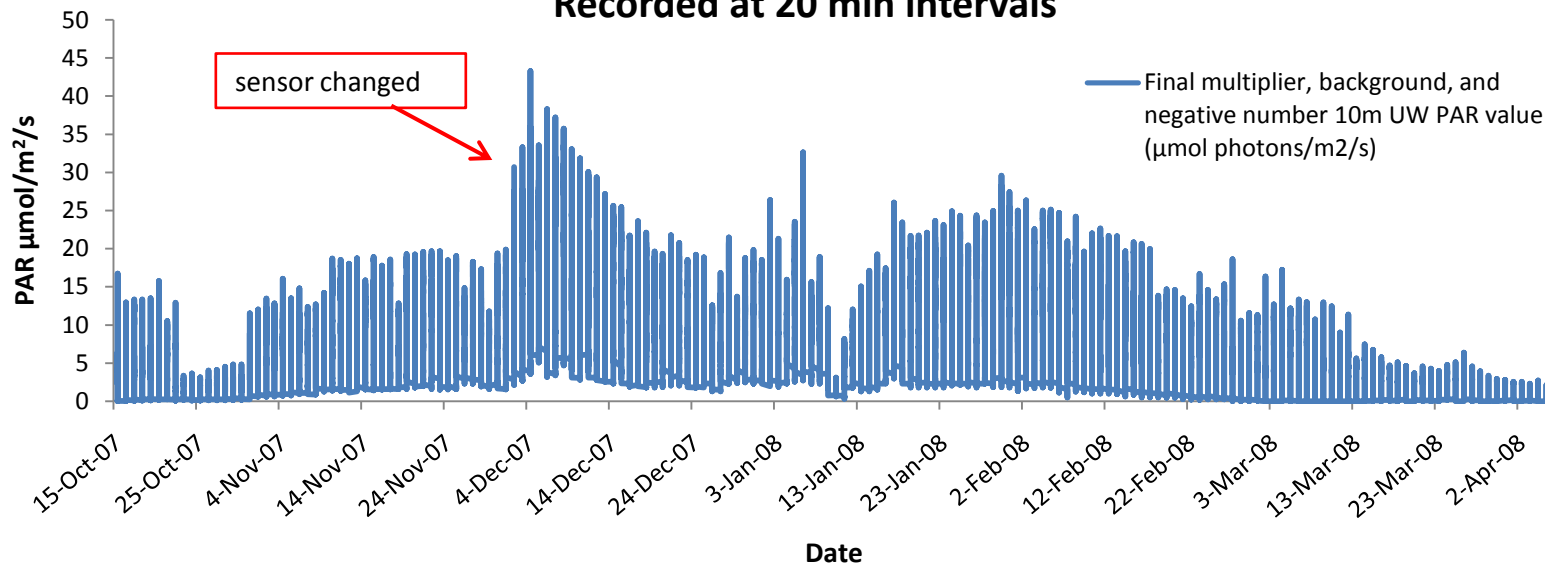
HOR under-ice PAR ( $\mu\text{mol}/\text{m}^2/\text{s}^{-1}$ )



# ELB Extended Season "Blue Box" UW Logged PAR

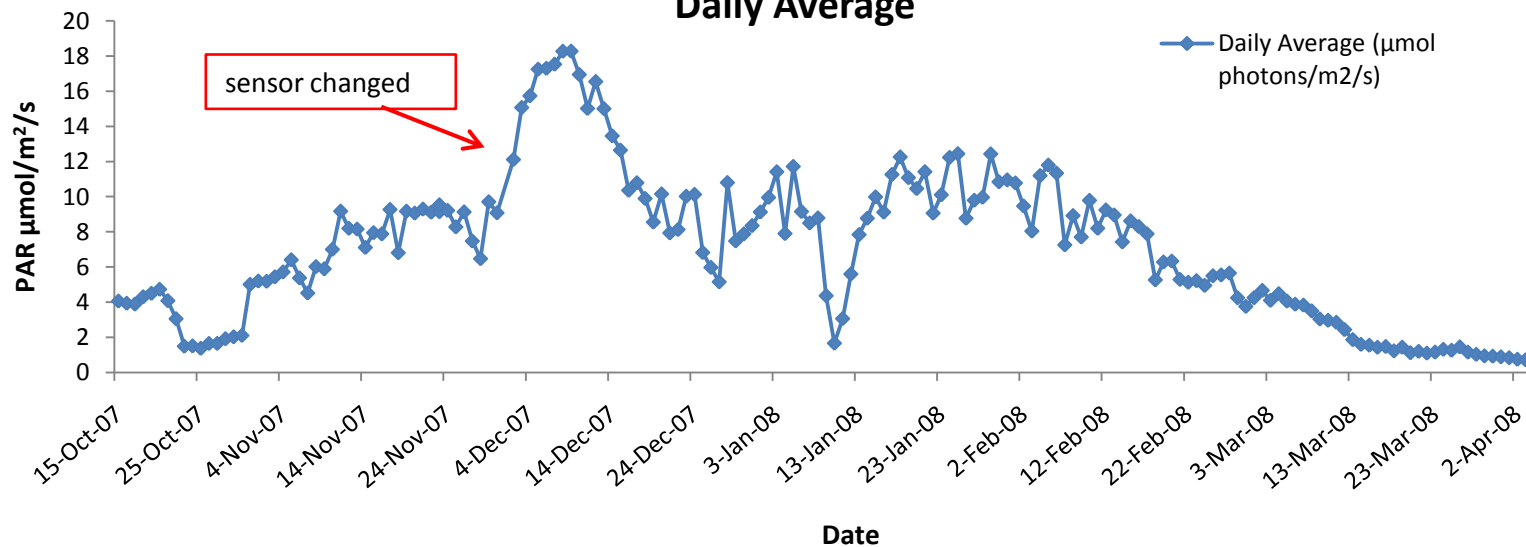
## ELB 0708 10m Extended Season UW PAR ( $\mu\text{mol}/\text{m}^2/\text{s}$ )

Recorded at 20 min intervals



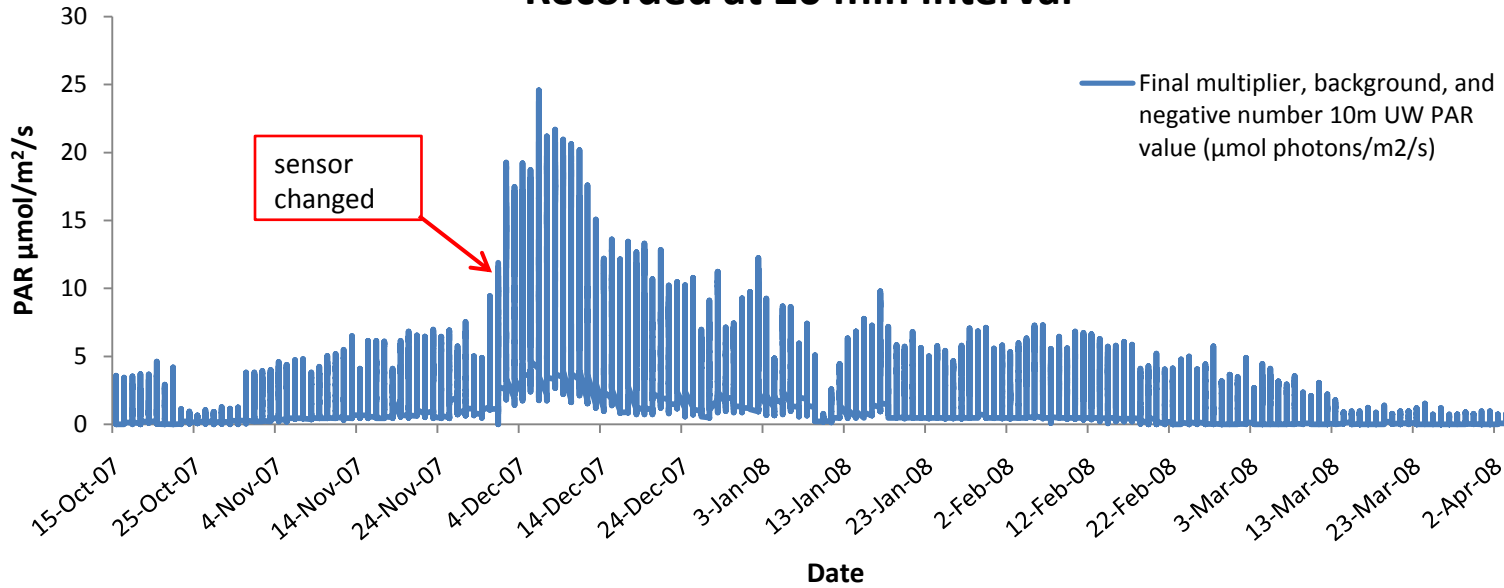
## ELB 0708 10m Extended Season UW PAR ( $\mu\text{mol}/\text{m}^2/\text{s}$ )

Daily Average

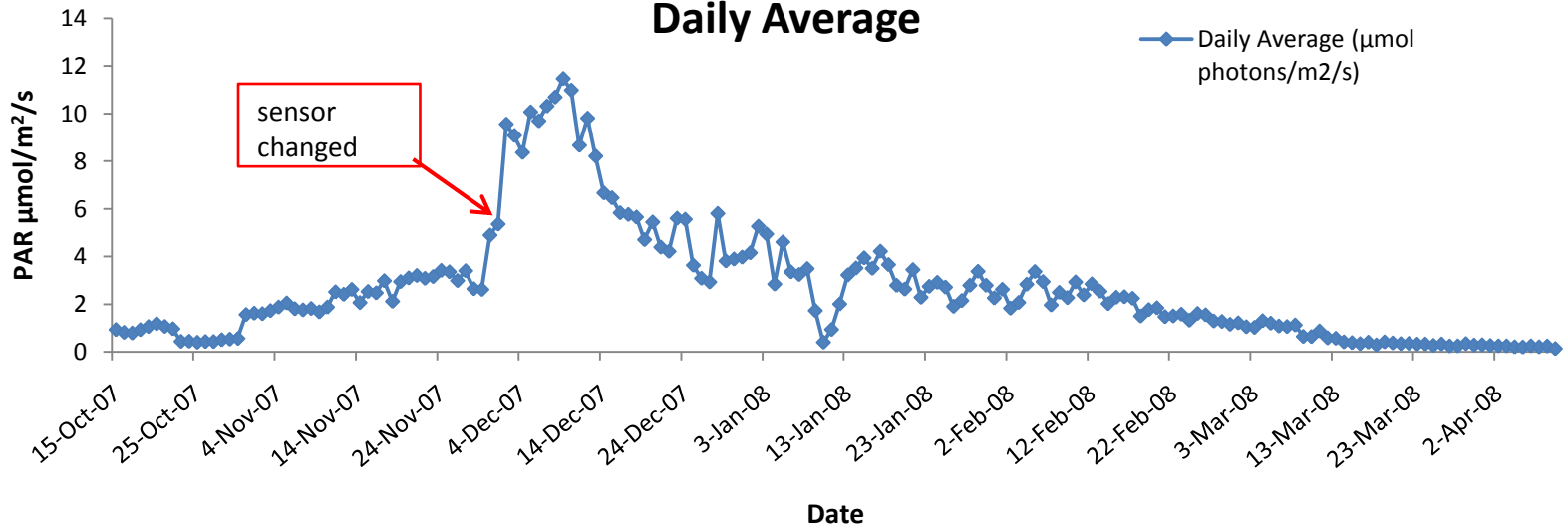


# WLB Extended Season "Blue Box" UW Logged PAR

## WLB 0708 10m Extended Season UW PAR ( $\mu\text{mol}/\text{m}^2/\text{s}$ ) Recorded at 20 min interval



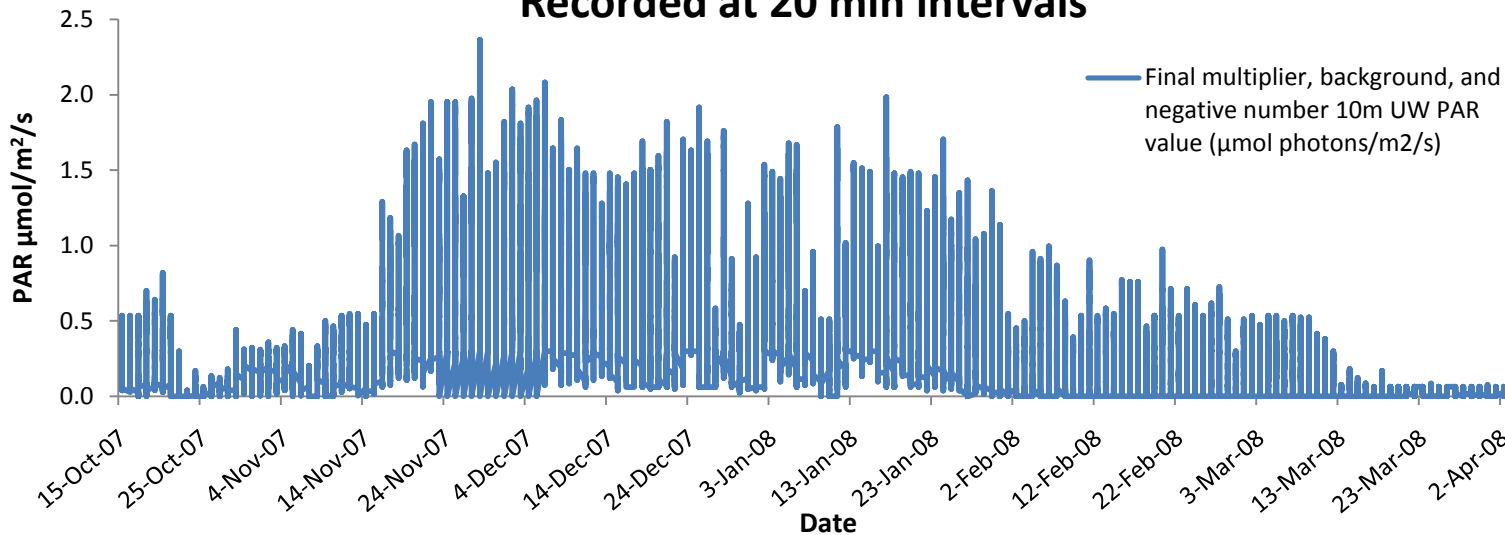
## WLB 0708 10m Extended Season UW PAR ( $\mu\text{mol}/\text{m}^2/\text{s}$ ) Daily Average



# FRX Extended Season "Blue Box" UW Logged PAR

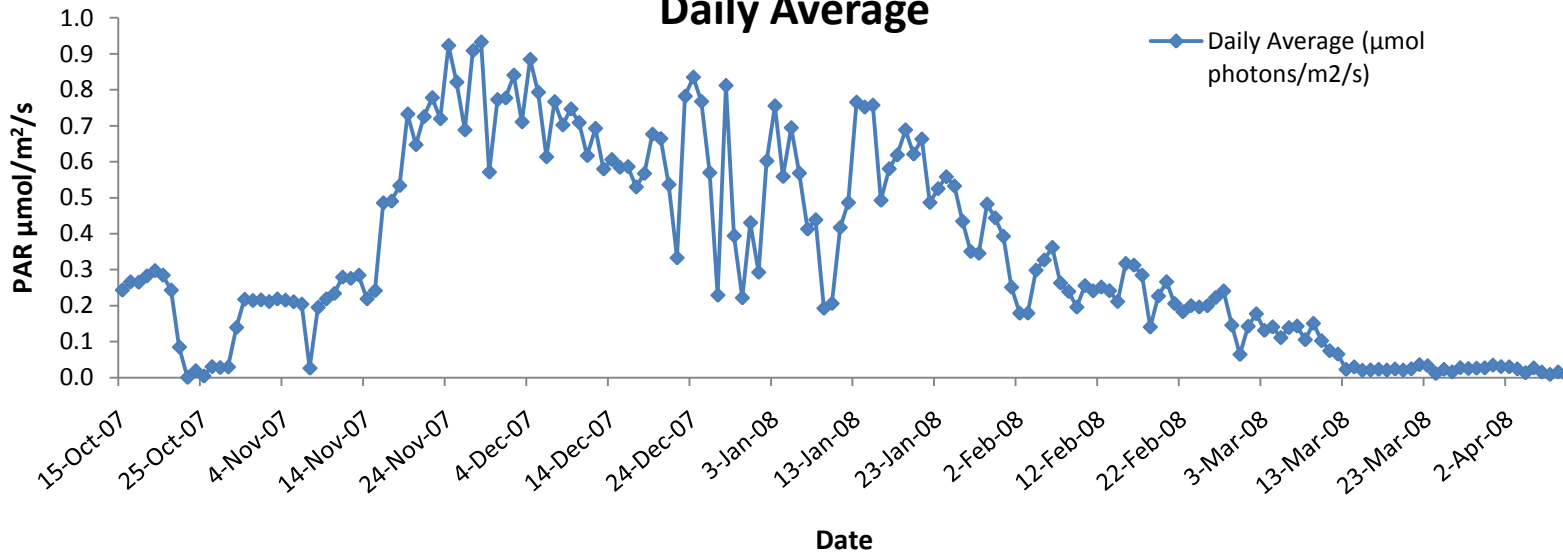
## FRX 0708 8m Extended Season UW PAR ( $\mu\text{mol}/\text{m}^2/\text{s}$ )

Recorded at 20 min intervals



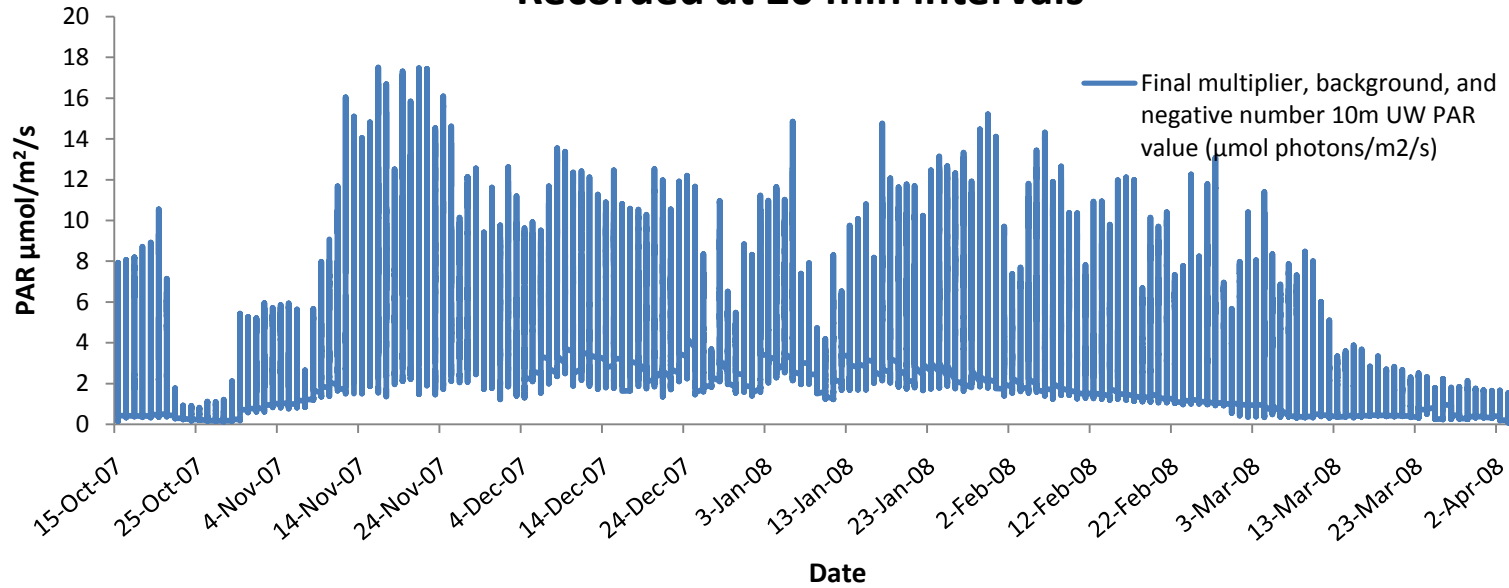
## FRX 0708 8m Extended Season UW PAR ( $\mu\text{mol}/\text{m}^2/\text{s}$ )

Daily Average

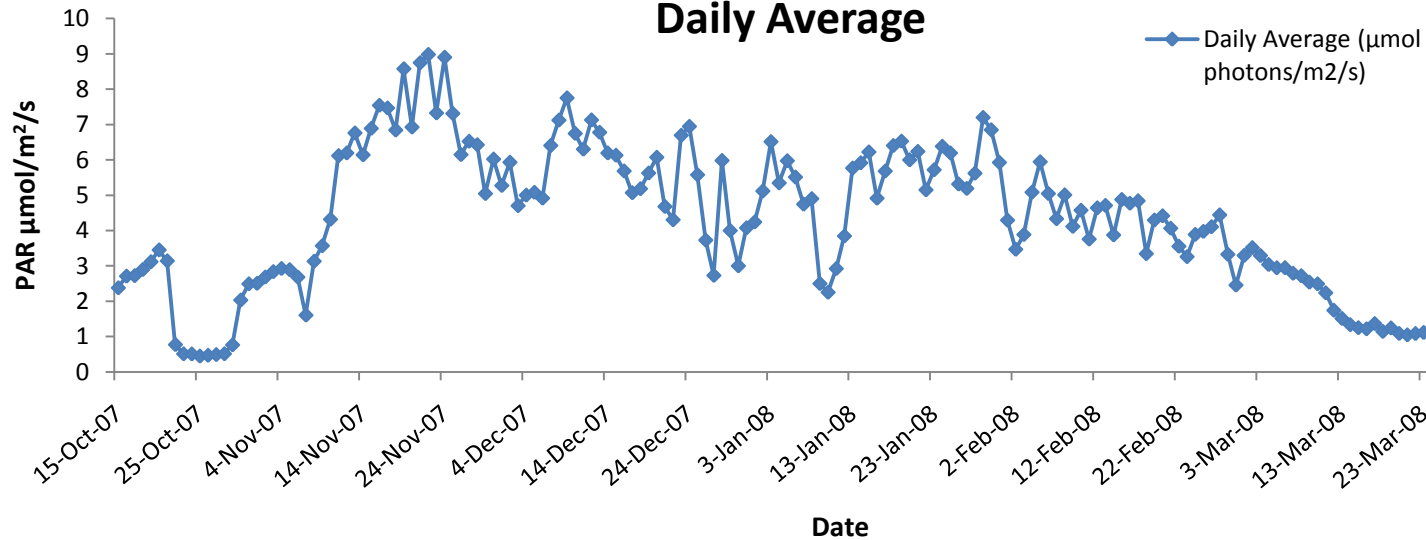


# HOR Extended Season "Blue Box" UW Logged PAR

## HOR 0708 10m Extended Season UW PAR ( $\mu\text{mol}/\text{m}^2/\text{s}$ ) Recorded at 20 min intervals

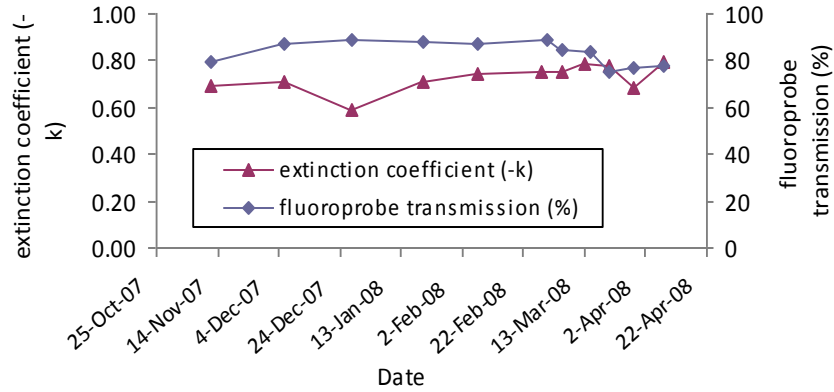


## HOR 0708 10m Extended Season UW PAR ( $\mu\text{mol}/\text{m}^2/\text{s}$ ) Daily Average

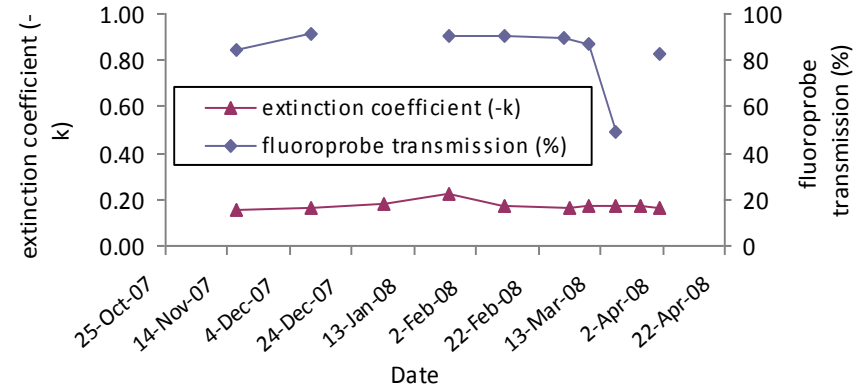


# Extended Season Extinction Coefficients & % transmission Averaged over PPR depth

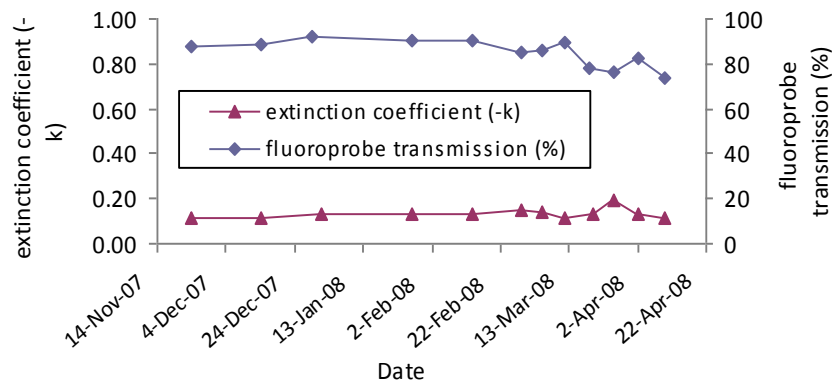
## FRX



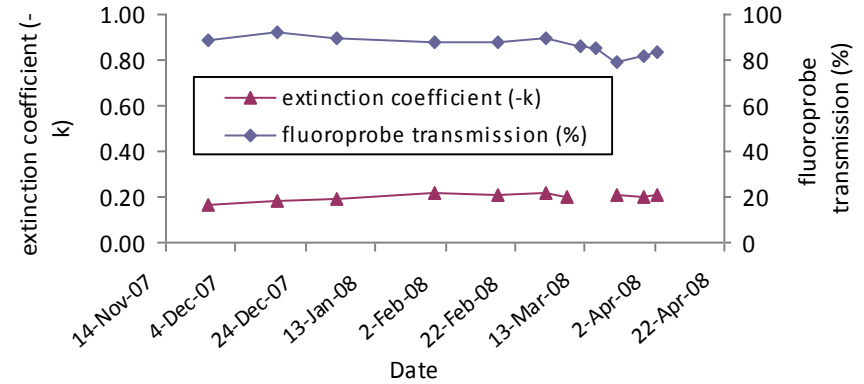
## HOR



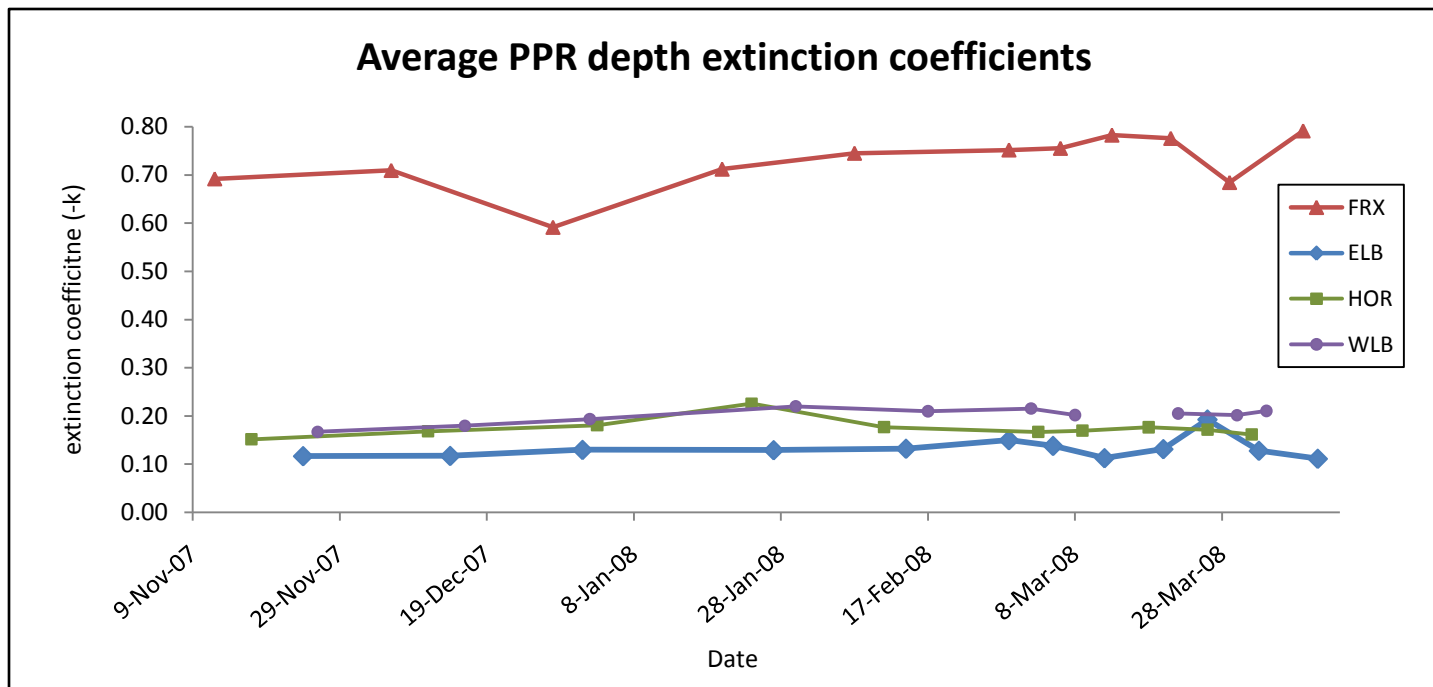
## ELB



## WLB

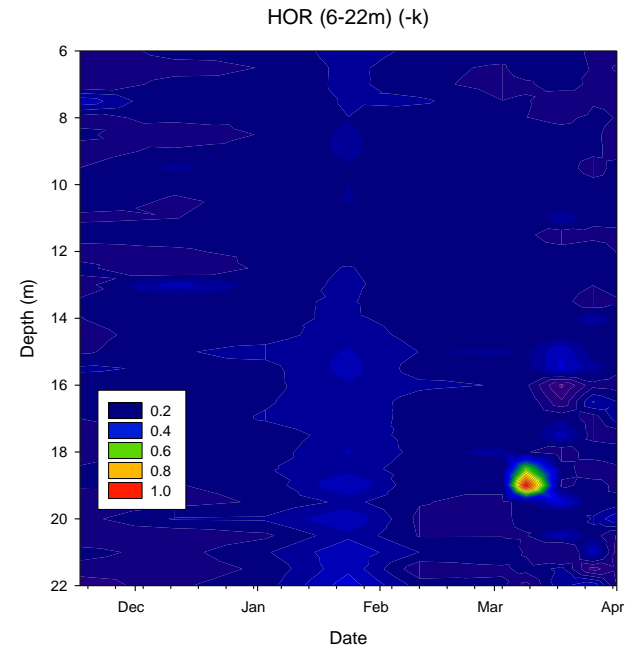
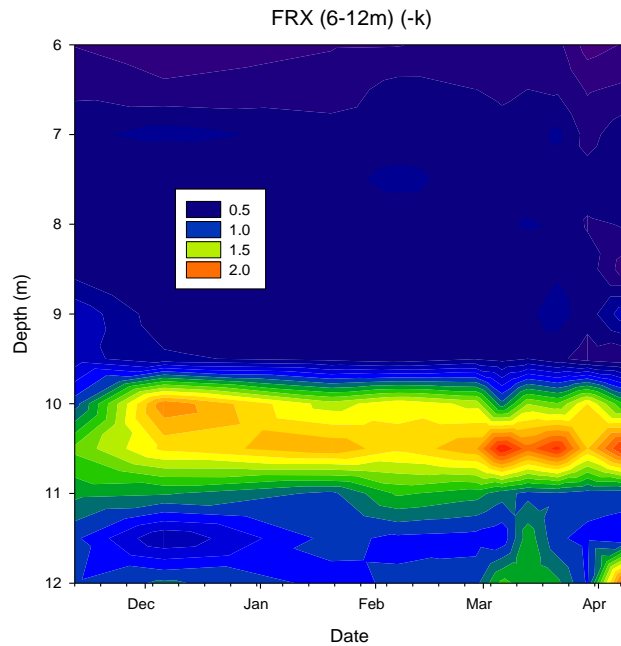
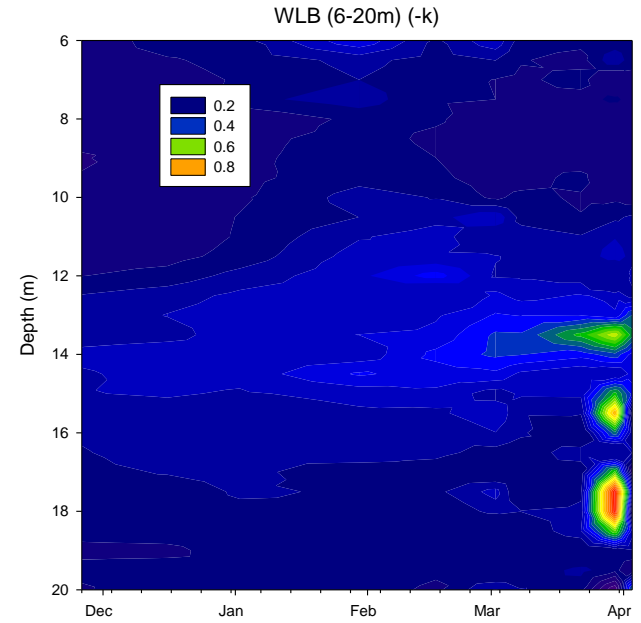
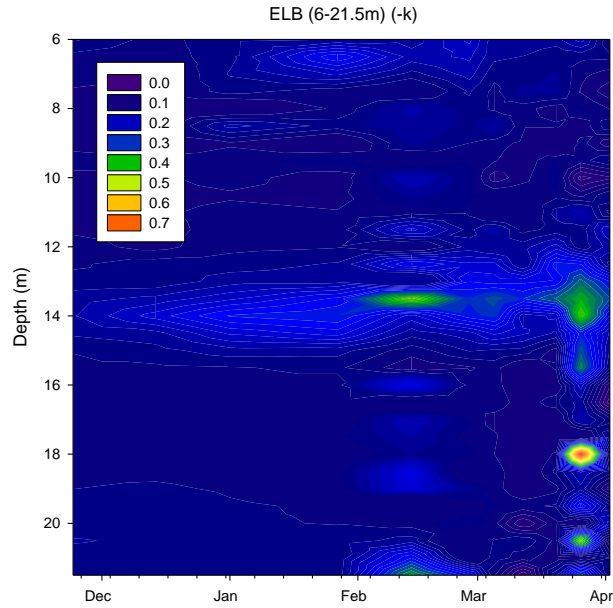


# Extended Season Extinction Coefficients Averaged over PPR depth

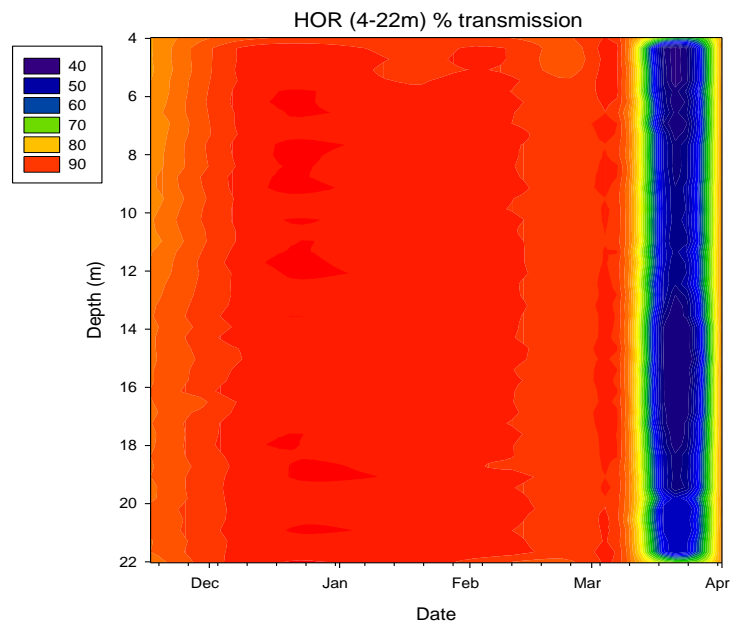
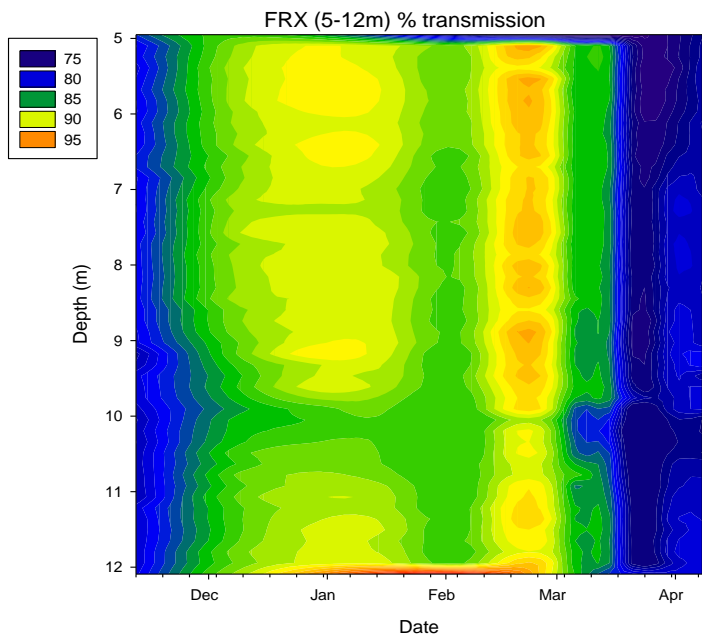
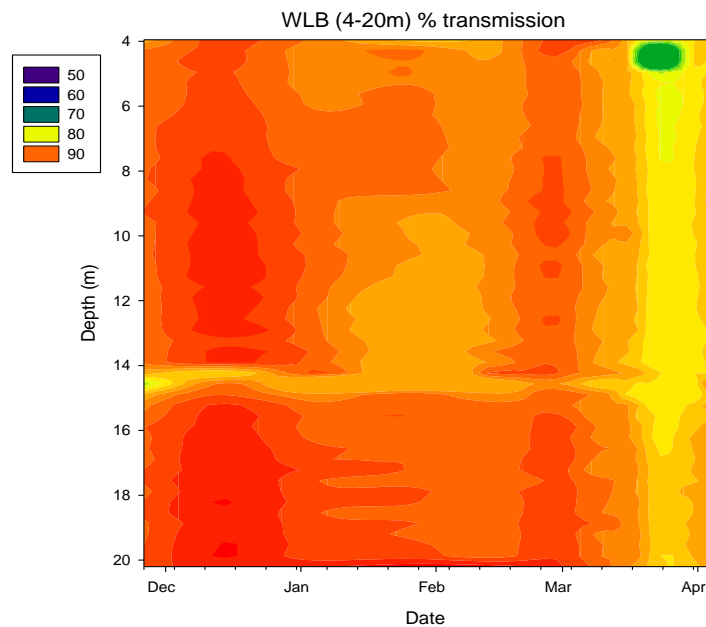
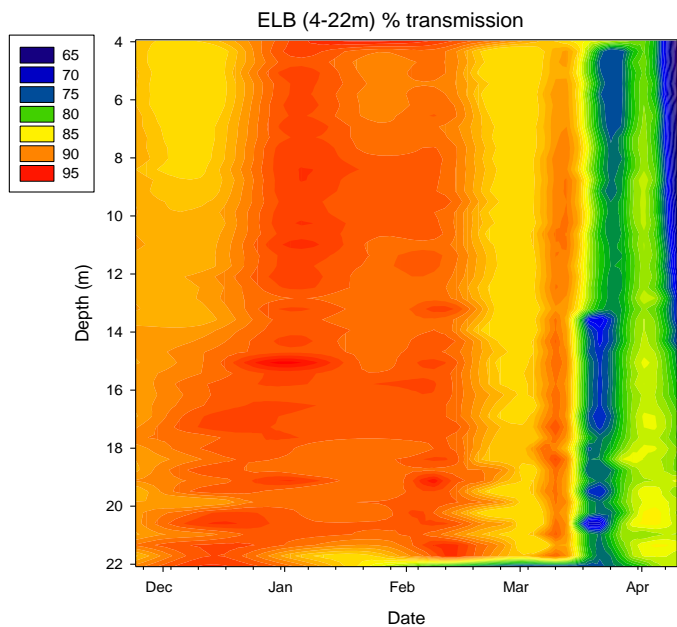




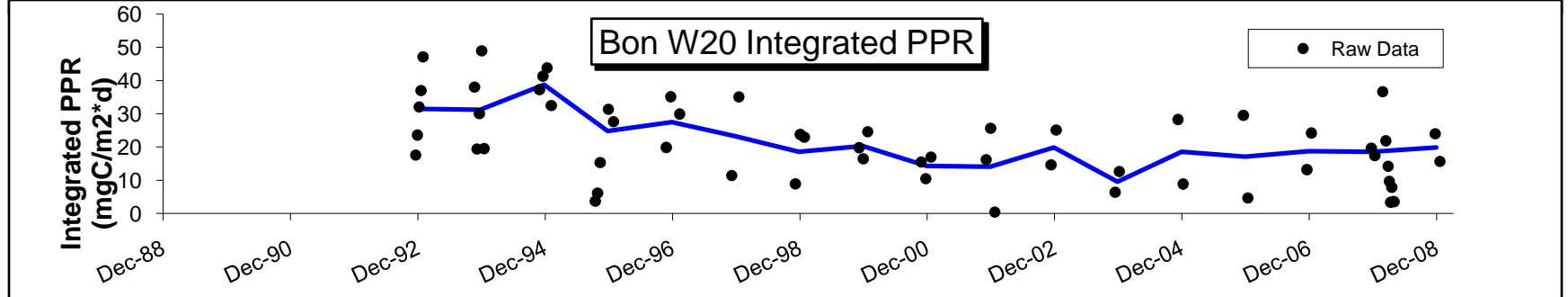
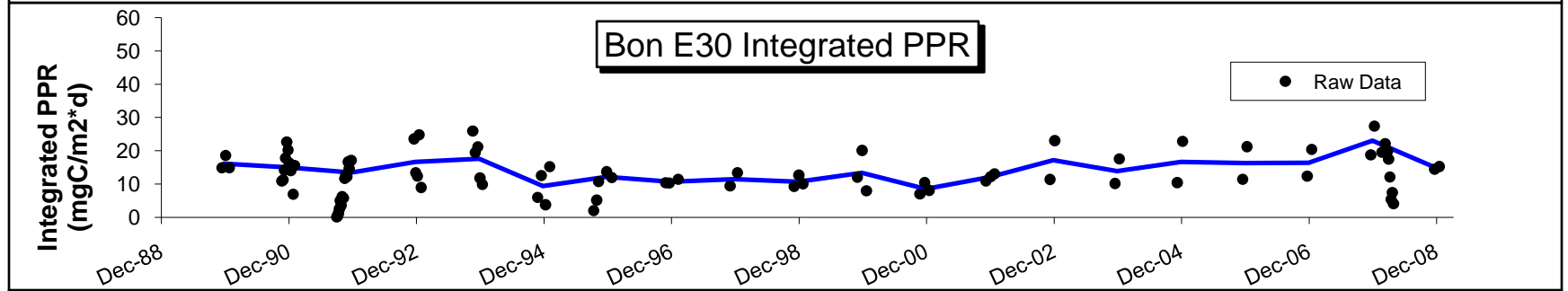
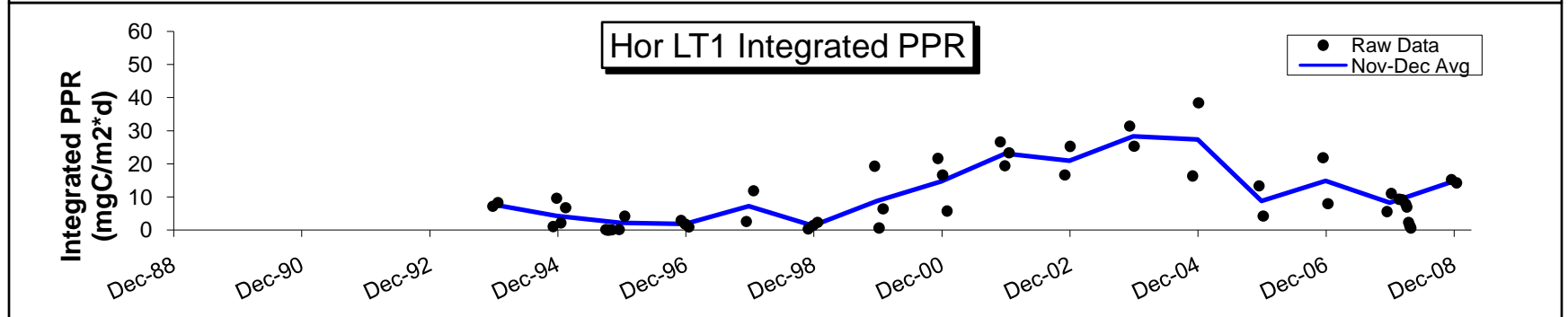
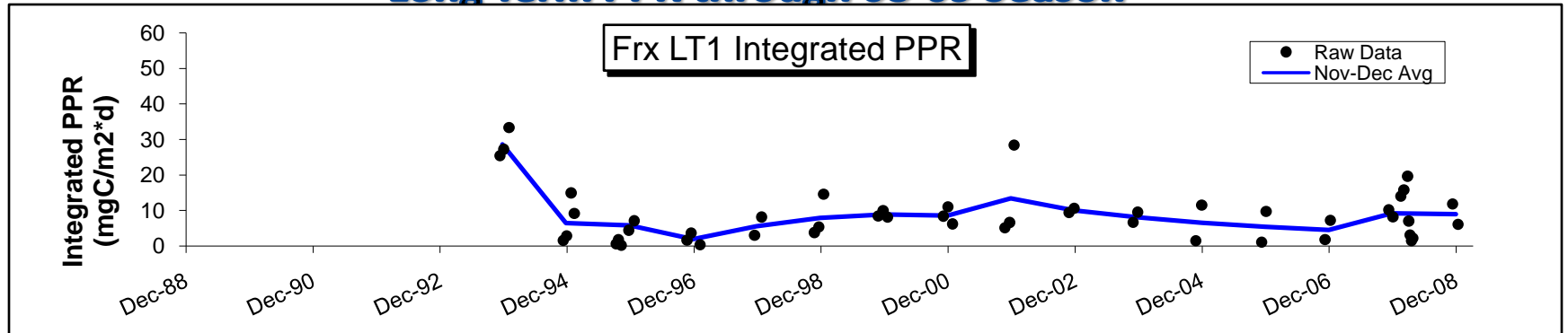
# Extended Season Extinction Coefficients for PPR Depths



# Extended Season % transmission (from Fluoroprobe) for PPR Depths



# Long Term PPR through 08-09 Season



# Extended Season Limnological Data Status

## Physical Parameters

ICE: Lake Ice Thickness and Piezometric Lake Depth – entered but needs to be proofed

## Biological Parameters

CHL: Chlorophyll-a Extraction – processed but needs correction factor from John

PHYTO: Phytoplankton Enumeration and Biomass – not yet analyzed

PPR: Primary Production Determined by <sup>14</sup>C Incorporation - processed and proofed

BAC: Bacteria Enumeration and Biomass – see next page

THY/LEU: Bacterial Production Determined by <sup>3</sup>H Thymidine and Leucine Incorporation - Tristy

## Chemical Parameters

PH: Hydrogen Ion Concentration - entered but needs to be proofed

DO: Dissolved Oxygen by Winkler Titration – entered but needs to be proofed

DIC: Dissolved Inorganic Carbon - processed

CN: Particulate Organic Carbon and Nitrogen - processed (Rob)

PP: Total Particulate Phosphorus – processed (Rob)

NUT: Dissolved Nutrients (NO<sub>3</sub>, NO<sub>2</sub>, NH<sub>4</sub>, soluble reactive phosphorus) - processed by Rob/Janet?

DOC/TN: Dissolved Organic Carbon and Total Nitrogen – processed by Janet, should be proofed

AN/CAT: Anions and Cations - not yet received from Kathy

## Profiling Instruments

CTD: Seabird 25 Conductivity, Temperature, and Depth - processed – needs depth correction

Fluoroprobe: Underwater Spectral Fluorometer – processed – needs proofing

PNF: Biospherical Profiling Natural Fluorescence - not processed

PAR Logged: Underwater Time Series -Phototynthetically Active Radiation Logged During PPR Experiments - processed

PAR Profile: Underwater Profile - Phototynthetically Active Radiation and Attenuation - processed and submitted to database



# Extended Season Sampling Dates

L1	Sampling Date	LICOR Profile	CTD	Fluoroprobe	PNF
FRX	11-Nov-07	12-Nov-07	12-Nov-07	12-Nov-07	12-Nov-07
HOR	16-Nov-07	17-Nov-07	17-Nov-07	17-Nov-07	17-Nov-07
ELB	23-Nov-07	24-Nov-07	24-Nov-07	24-Nov-07	24-Nov-07
WLB	25-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07
Vanda	7-Dec-07	7-Dec-07	7-Dec-07	none	7-Dec-07
<b>L2</b>					
FRX	5-Dec-07	6-Dec-07	6-Dec-07	6-Dec-07	6-Dec-07
HOR	10-Dec-07	11-Dec-07	11-Dec-07	11-Dec-07	11-Dec-07
ELB	13-Dec-07	14-Dec-07	14-Dec-07	14-Dec-07	14-Dec-07
WLB	15-Dec-07	16-Dec-07	16-Dec-07	16-Dec-07	16-Dec-07
<b>L3</b>					
FRX	28-Dec-07	28-Dec-07	28-Dec-07	28-Dec-07	28-Dec-07
HOR	31-Dec-07	3-Jan-08	3-Jan-08	not working	3-Jan-08
ELB	1-Jan-08	1-Jan-08	29-Dec-07	29-Dec-07	29-Dec-07
WLB	2-Jan-08	2-Jan-08	2-Jan-08	not working	2-Jan-08
<b>L4</b>					
FRX	19-Jan-08	20-Jan-08	20-Jan-08	20-Jan-08	none
HOR	23-Jan-08	24-Jan-08	24-Jan-08	24-Jan-08	none
ELB	26-Jan-08	27-Jan-08	27-Jan-08	27-Jan-08	none
WLB	29-Jan-08	30-Jan-08	30-Jan-08	30-Jan-08	none
<b>L5</b>					
FRX	6-Feb-08	7-Feb-08	7-Feb-08	7-Feb-08	none
HOR	10-Feb-08	11-Feb-08	11-Feb-08	11-Feb-08	none
ELB	13-Feb-08	14-Feb-08	14-Feb-08	14-Feb-08	none
WLB	16-Feb-08	17-Feb-08	17-Feb-08	17-Feb-08	none
<b>L6</b>					
FRX	27-Feb-08	28-Feb-08	1-Mar-08	1-Mar-08	none
HOR	1-Mar-08	3-Mar-08	1-Mar-08	1-Mar-08	none
ELB	27-Feb-08	28-Feb-08	28-Feb-08	28-Feb-08	none
WLB	1-Mar-08	2-Mar-08	2-Mar-08	2-Mar-08	none
<b>L7</b>					
FRX	5-Mar-08	6-Mar-08	6-Mar-08	6-Mar-08	none
HOR	8-Mar-08	9-Mar-08	9-Mar-08	9-Mar-08	none
ELB	4-Mar-08	5-Mar-08	5-Mar-08	5-Mar-08	none
WLB	7-Mar-08	8-Mar-08	12-Mar-08	12-Mar-08	none
<b>L8</b>					
FRX	12-Mar-08	13-Mar-08	15-Mar-08	15-Mar-08	none
HOR	17-Mar-08	18-Mar-08	18-Mar-08	18-Mar-08	none
ELB	11-Mar-08	12-Mar-08	12-Mar-08	12-Mar-08	none
WLB	14-Mar-08	none	16-Mar-08	16-Mar-08	none
Vanda	14-Mar-08	none	none	none	none
<b>L9</b>					
FRX	20-Mar-08	21-Mar-08	21-Mar-08	21-Mar-08	none
HOR	25-Mar-08	26-Mar-08	skipped	skipped per John	none
ELB	18-Mar-08	20-Mar-08	19-Mar-08	19-Mar-08	none
WLB	21-Mar-08	22-Mar-08	22-Mar-08	22-Mar-08	none
<b>L10</b>					
FRX	28-Mar-08	29-Mar-08	29-Mar-08	29-Mar-08	none
HOR	31-Mar-08	1-Apr-08	1-Apr-08	1-Apr-08	none
ELB	25-Mar-08	26-Mar-08	26-Mar-08	26-Mar-08	none
WLB	29-Mar-08	30-Mar-08	30-Mar-08	30-Mar-08	none
<b>L11</b>					
FRX	8-Apr-08	8-Apr-08	none	8-Apr-08	none
ELB	1-Apr-08	2-Apr-08	2-Apr-08	2-Apr-08	none
WLB	4-Apr-08	3-Apr-08	3-Apr-08	3-Apr-08	none
<b>L12</b>					
ELB	10-Apr-08	10-Apr-08	probably not	none	none