

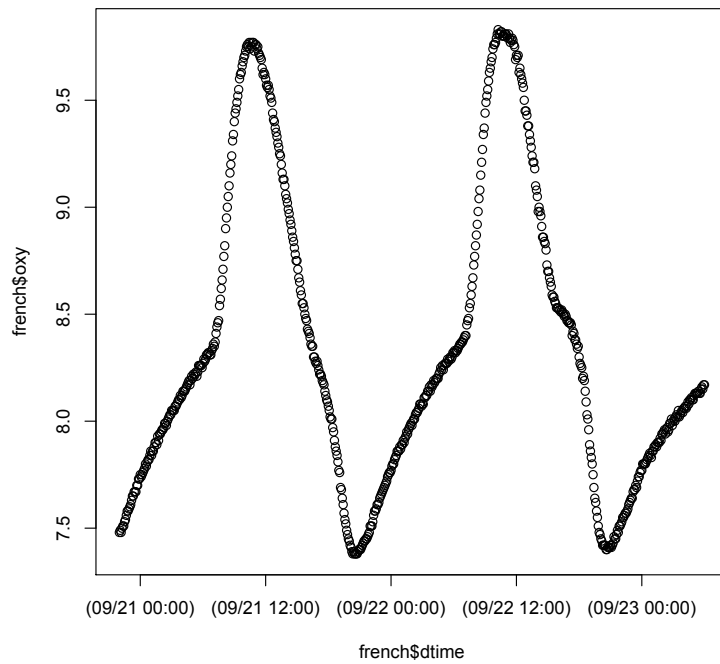
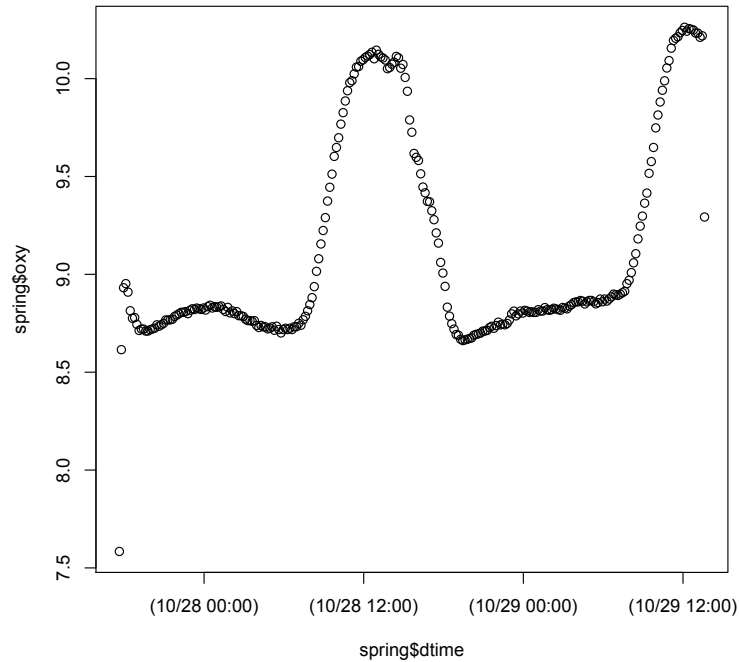
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**Supplemental File S6. Example output from inverse modeling (S3) with data (S4, S5)**  
Hall, R. O. and E. R. Hotchkiss. Stream Metabolism. In: *Methods in Stream Ecology*, 3<sup>rd</sup> Ed.

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*Here is an example of metabolism model outputs if using inverse modeling with MLE R code provided in S3 and data files S4 and S5 (Spring Creek and French Creek, respectively).*

**1. PLOT: Original O2 data for Spring Creek and French Creek**

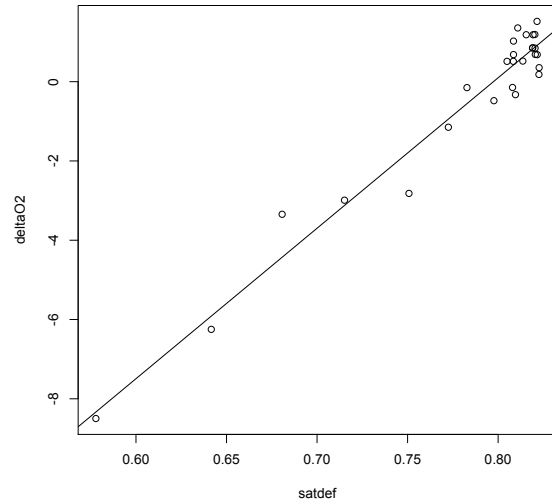


## 2. NIGHTTIME REGRESSION OUTPUT

### Spring Creek

```
[[1]]  
(Intercept)  satdef  
-30.26716    37.95651
```

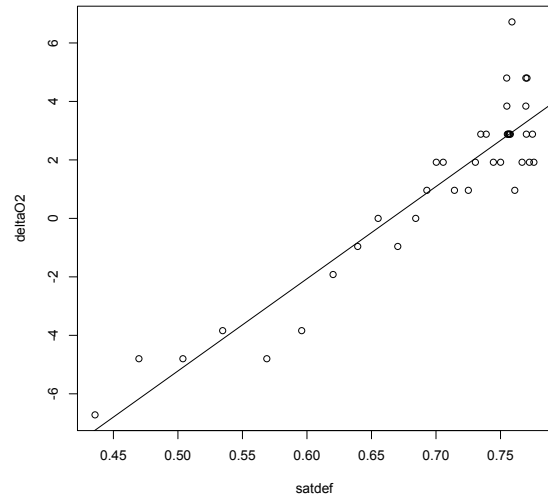
```
[[2]]  
satdef  
52.4837
```



### French Creek 1

```
[[1]]  
(Intercept)  satdef  
-20.99013    31.54226
```

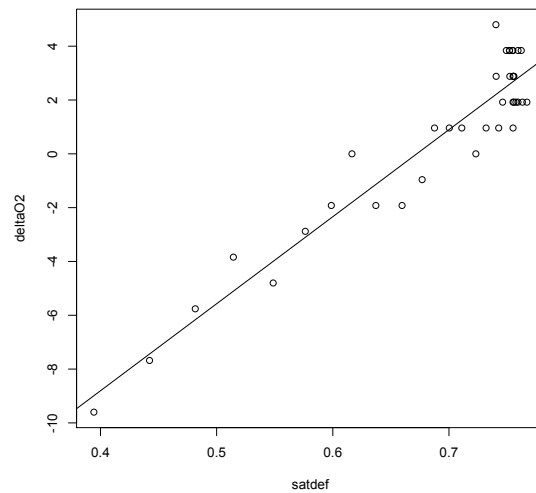
```
[[2]]  
satdef  
42.18804
```



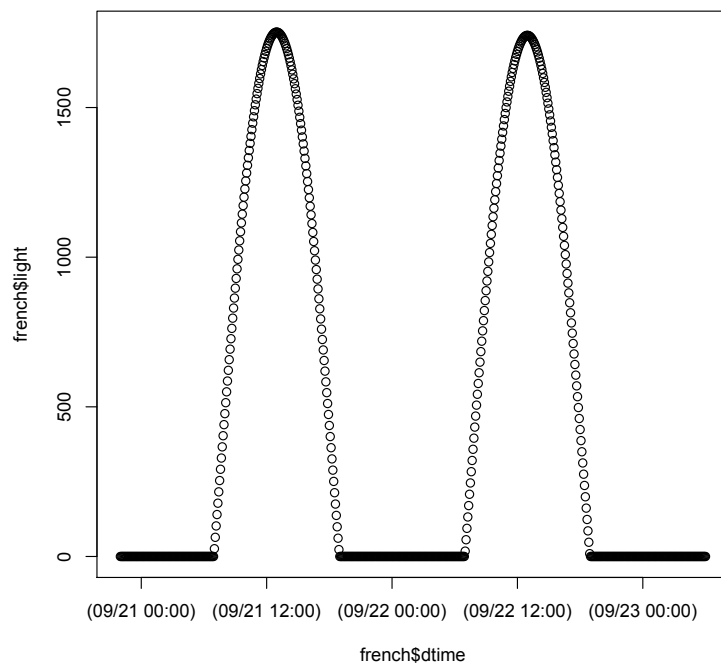
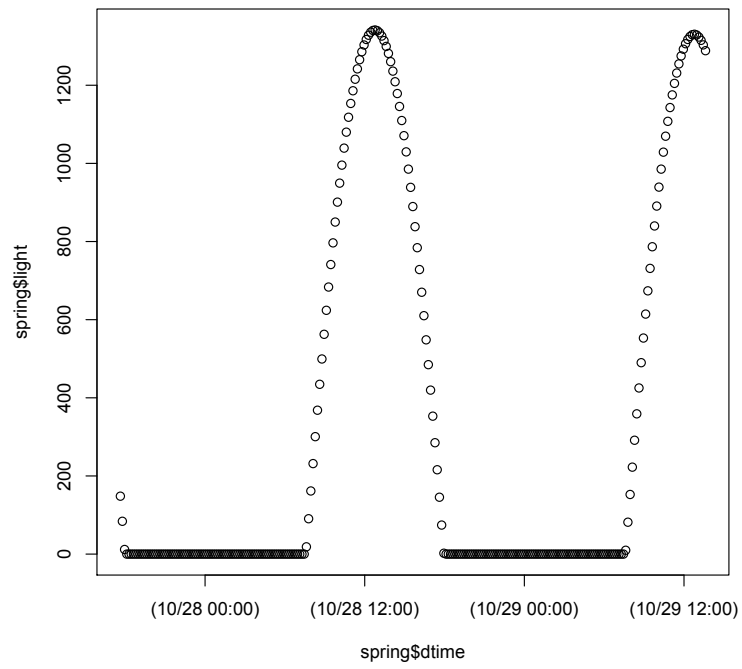
### French Creek 2

```
[[1]]  
(Intercept)  satdef  
-21.74394    32.34515
```

```
[[2]]  
satdef  
43.32524
```



### 3. PLOT: Modelled light for Spring Creek and French Creek



#### 4. METABOLISM MODEL OUTPUT; ESTIMATE GPP, ER, & K

##### Spring Creek

\$GPP

[1] 1.939175

\$ER

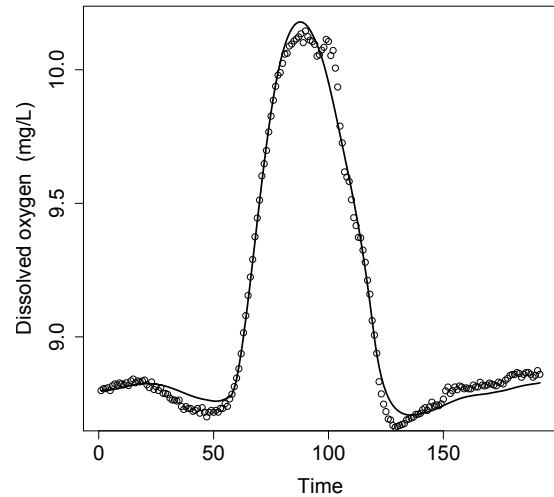
[1] -2.681567

\$K600

[1] 25.73581

\$neglogL

[1] -325.0604



##### French Creek 1

\$GPP

[1] 3.439456

\$ER

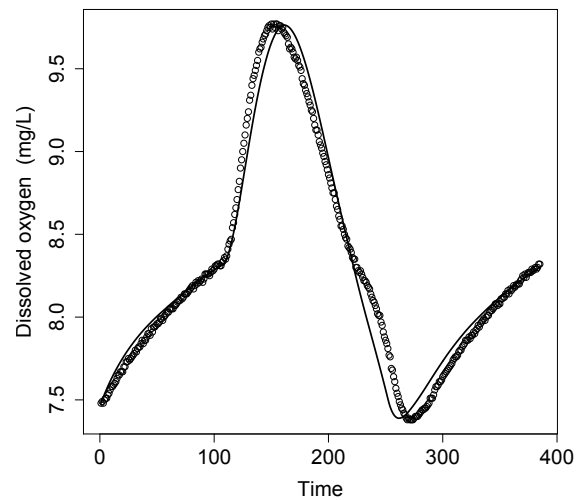
[1] -2.617681

\$K600

[1] 33.92462

\$neglogL

[1] -295.0854



##### French Creek 2

\$GPP

[1] 3.233901

\$ER

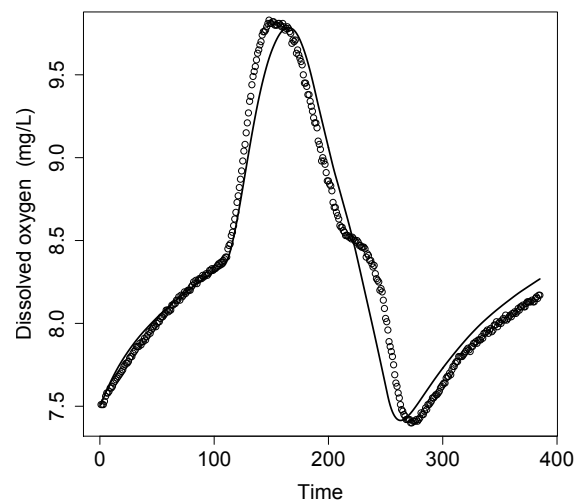
[1] -2.444943

\$K600

[1] 31.67746

\$neglogL

[1] -183.6659



## 5. METABOLISM MODEL OUTPUT; ESTIMATE GPP & ER; FIX K

### Spring Creek (K = 29)

\$GPP

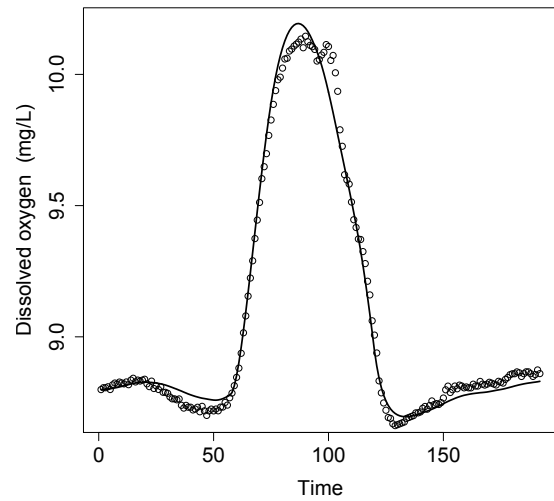
[1] 2.176448

\$ER

[1] -3.017215

\$neglogL

[1] -306.0968



### French Creek 1 (K=35)

\$GPP

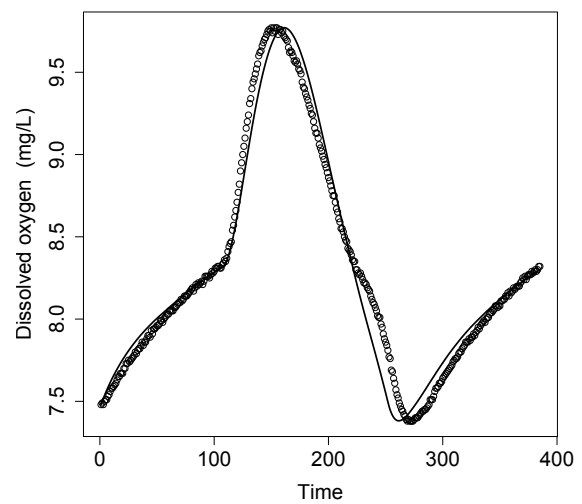
[1] 3.557692

\$ER

[1] -2.714034

\$neglogL

[1] -294.7681



### French Creek 2 (K=35)

\$GPP

[1] 3.599673

\$ER

[1] -2.741269

\$neglogL

[1] -181.6042

