# NC Ecological Flows Science Advisory Board

40/30/20% Trial Balloon

July 16, 2013

#### **Piedmont Streams**

(Cyprinids and Catostomids)

- High flow (Feb-April) 40%\*
- Transition flow (May, June, and Jan) 30%\*
- Low flow (July-Dec) − 20%\*

<sup>\*</sup> Percentage of Annual Mean Flow (cfs) or Percentage of Monthly Mean Flows

#### **Buckhorn Creek**

Green	≥ 80% and	<u>&lt;</u> 120%		Red	< 80%			Yellow	> 120 %						
% AMF b	y month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximum
Shallow	SSYOY	155.8%	136.2%	141.7%	122.8%	105.3%	98.6%	100.2%	100.3%	98.5%	99.6%	106.9%	131.7%	98.5%	155.8%
	SSVEG	166.7%	145.4%	156.4%	125.2%	107.6%	105.3%	107.5%	108.9%	107.5%	106.4%	110.5%	123.3%	105.3%	166.7%
	SSWOOD	176.9%	152.3%	166.0%	127.9%	107.6%	105.0%	107.3%	108.8%	107.2%	106.3%	111.0%	125.4%	105.0%	176.9%
	SSCOARSE	419.4%	243.2%	292.4%	166.3%	116.3%	103.7%	109.2%	111.0%	106.5%	107.4%	124.5%	189.9%	103.7%	419.4%
	SSFINENC	199.5%	166.1%	182.5%	136.9%	112.7%	108.9%	111.2%	113.3%	111.6%	109.6%	114.5%	130.3%	108.9%	199.5%
	SFLOWVE	269.0%	203.6%	241.8%	149.4%	117.6%	115.7%	122.4%	132.3%	132.0%	119.9%	122.5%	139.7%	115.7%	269.0%
	SFMODVE	81.9%	99.5%	100.2%	96.5%	95.4%	103.9%	93.2%	92.6%	97.3%	93.9%	82.8%	68.9%	68.9%	103.9%
	SFHIVEL	27.3%	50.9%	47.1%	56.7%	59.5%	75.0%	45.5%	47.6%	50.0%	52.6%	35.1%	22.2%	22.2%	75.0%
Deep	DSCOV	100.3%	106.1%	107.1%	104.1%	101.8%	106.4%	100.4%	100.7%	103.3%	100.2%	94.2%	86.7%	86.7%	107.1%
	DSCOV2	124.5%	122.5%	127.5%	112.8%	105.2%	105.9%	104.7%	105.4%	105.7%	104.0%	103.1%	102.3%	102.3%	127.5%
	DSNC	157.0%	151.3%	167.2%	131.0%	114.0%	116.5%	106.7%	108.3%	111.1%	105.5%	101.1%	95.9%	95.9%	167.2%
	DFFINE	50.4%	67.2%	64.0%	73.1%	82.1%	93.8%	79.0%	76.6%	82.1%	82.7%	66.7%	50.1%	50.1%	93.8%
	DFGRCOB	18.7%	35.2%	31.9%	44.5%	50.8%	67.5%	24.2%	20.8%	24.7%	29.0%	16.7%	10.9%	10.9%	67.5%
	DFCOARSI	48.6%	59.3%	55.5%	70.4%	87.5%	96.1%	89.2%	87.5%	91.8%	91.8%	78.9%	61.6%	48.6%	96.1%
Other	AMSHJ	56.9%	67.8%	64.4%	77.1%	90.2%	99.1%	89.3%	88.1%	93.0%	91.8%	78.7%	63.3%	56.9%	99.1%
	GORHA	77.8%	86.2%	84.4%	89.8%	95.1%	99.8%	95.1%	94.7%	97.2%	96.1%	89.0%	78.7%	77.8%	99.8%
	GORHJ	66.9%	80.3%	78.1%	84.2%	90.4%	98.3%	89.5%	88.5%	92.4%	91.4%	80.2%	66.2%	66.2%	98.3%
	CFRSHA	757.0%	380.7%	516.7%	196.5%	130.8%	121.4%	124.2%	129.8%	125.5%	121.3%	131.6%	183.0%	121.3%	757.0%
	CFRSHS	473.0%	241.0%	290.8%	159.4%	113.4%	102.4%	120.2%	124.0%	117.9%	118.3%	137.4%	226.3%	102.4%	473.0%
	CCHUBA	324.7%	240.0%	299.6%	168.9%	126.0%	125.8%	128.7%	134.3%	136.4%	125.4%	127.2%	142.2%	125.4%	324.7%
	CCHUBS	175.4%	181.2%	209.8%	147.7%	118.7%	128.9%	116.0%	118.9%	126.7%	112.8%	103.4%	94.7%	94.7%	209.8%
	EPHEM	116.0%	116.1%	119.8%	108.0%	104.3%	106.3%	105.0%	105.7%	107.2%	104.2%	102.0%	98.7%	98.7%	119.8%
	PLECO	123.2%	125.5%	131.7%	114.5%	107.2%	111.6%	108.0%	110.1%	113.5%	107.0%	101.8%	96.0%	96.0%	131.7%
	TRIC1	92.3%	98.6%	98.4%	97.9%	99.2%	102.8%	99.7%	100.1%	101.9%	99.9%	95.1%	88.0%	88.0%	102.8%
	MACLR													0.0%	0.0%
AVE	ERAGE	177.5%	139.8%	157.3%	115.1%	101.6%	104.1%	99.0%	100.3%	101.7%	99.0%	96.5%	103.2%		
ME	DIAN	123.9%	124.0%	129.6%	113.7%	105.3%	104.5%	104.9%	105.6%	106.1%	104.1%	101.9%	96.0%		
MIN	IIMUM	18.7%	35.2%	31.9%	44.5%	50.8%	67.5%	24.2%	20.8%	24.7%	29.0%	16.7%	10.9%		
MAX	KIMUM	757.0%	380.7%	516.7%	196.5%	130.8%	128.9%	128.7%	134.3%	136.4%	125.4%	137.4%	226.3%		

#### **Buffalo Creek**

Green	≥ 80% and	< 120%		Red	< 80%			Yellow	> 120 %						
Green	<u>&gt;</u> 00/0 and	<u>&lt; 12070</u>		neu	V 0070			Tellow	> 120 /0						
% AMF by	y month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximum
Shallow	SSYOY	196.7%	177.4%	192.0%	169.6%	169.4%	152.8%	160.8%	151.3%	139.3%	147.7%	180.1%	210.4%	139.3%	210.4%
	SSVEG	177.9%	175.8%	190.9%	168.5%	153.1%	139.6%	132.8%	127.5%	119.7%	124.3%	143.4%	163.8%	119.7%	190.9%
	SSWOOD	171.9%	169.5%	183.1%	162.9%	149.3%	137.0%	130.5%	125.6%	118.6%	122.8%	140.3%	159.0%	118.6%	183.1%
	SSCOARSE	214.6%	228.5%	251.1%	217.0%	175.5%	153.9%	134.7%	128.0%	118.1%	123.4%	147.0%	176.9%	118.1%	251.1%
	SSFINENC	190.5%	191.6%	204.9%	184.4%	163.6%	146.7%	132.5%	127.1%	118.1%	122.3%	142.7%	166.4%	118.1%	204.9%
	SFLOWVE	140.8%	171.2%	188.3%	163.0%	121.9%	117.7%	89.8%	90.1%	86.8%	87.5%	90.1%	96.8%	86.8%	188.3%
	SFMODVE	66.8%	81.0%	81.8%	79.3%	66.6%	70.3%	60.3%	63.8%	67.3%	64.8%	57.7%	53.0%	53.0%	81.8%
	SFHIVEL	26.9%	31.3%	30.1%	31.6%	30.8%	36.0%	45.3%	50.4%	61.4%	54.9%	39.8%	31.1%	26.9%	61.4%
Deep	DSCOV	99.8%	99.1%	97.9%	100.7%	100.2%	100.1%	100.0%	100.1%	100.0%	100.0%	100.0%	100.2%	97.9%	100.7%
	DSCOV2	98.9%	108.9%	110.7%	107.6%	96.2%	96.7%	83.2%	84.2%	84.4%	83.9%	82.0%	81.8%	81.8%	110.7%
	DSNC	112.2%	133.8%	140.9%	129.3%	102.0%	101.4%	62.8%	64.8%	65.2%	63.4%	61.3%	62.2%	61.3%	140.9%
	DFFINE	27.5%	34.6%	33.1%	35.1%	31.8%	36.9%	32.1%	35.6%	43.6%	38.8%	27.7%	21.9%	21.9%	43.6%
	DFGRCOB	10.1%	19.5%	18.2%	20.4%	12.7%	15.4%	4.2%	4.7%	6.8%	5.6%	3.3%	2.4%	2.4%	20.4%
	DFCOARS	41.6%	46.3%	42.9%	48.5%	50.0%	56.0%	53.0%	56.4%	63.9%	59.4%	46.9%	39.5%	39.5%	63.9%
Other	AMSS2	32.2%	47.0%	45.2%	48.1%	36.5%	40.9%	27.0%	29.4%	34.8%	31.5%	23.5%	19.5%	19.5%	48.1%
	GORHA	56.3%	67.7%	65.0%	69.3%	61.9%	66.2%	50.7%	53.2%	57.8%	54.9%	46.5%	41.8%	41.8%	69.3%
	GORHJ	41.5%	52.4%	48.3%	55.1%	49.5%	54.8%	39.3%	41.7%	47.2%	44.0%	34.4%	29.5%	29.5%	55.1%
	EPHEM	105.3%	115.9%	119.8%	113.6%	100.4%	100.4%	87.7%	88.8%	88.1%	87.6%	87.0%	87.5%	87.0%	119.8%
	PLECO	91.9%	105.4%	107.1%	104.2%	89.5%	90.4%	72.3%	74.5%	75.6%	74.0%	70.7%	69.6%	69.6%	107.1%
	TRIC1	92.1%	99.0%	99.5%	98.3%	91.5%	92.6%	83.3%	84.4%	86.0%	84.9%	82.0%	80.5%	80.5%	99.5%
	MACLR													0.0%	0.0%
AVE	RAGE	99.8%	107.8%	112.5%	105.3%	92.6%	90.3%	79.1%	79.1%	79.1%	78.8%	80.3%	84.7%		
ME	DIAN	95.5%	102.3%	103.3%	102.5%	93.9%	94.7%	77.8%	79.4%	80.0%	79.0%	76.4%	75.1%		
MIN	IMUM	10.1%	19.5%	18.2%	20.4%	12.7%	15.4%	4.2%	4.7%	6.8%	5.6%	3.3%	2.4%		
MAX	(IMUM	214.6%	228.5%	251.1%	217.0%	175.5%	153.9%	160.8%	151.3%	139.3%	147.7%	180.1%	210.4%		

#### **Eno River**

Green	≥ 80% and	<u>&lt;</u> 120%		Red	< 80%			Yellow	> 120 %						
% AMF by	y month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximum
Shallow	SSYOY	139.8%	123.3%	126.6%	118.4%	123.7%	107.8%	113.8%	109.1%	102.7%	104.9%	117.6%	144.4%	102.7%	144.4%
	SSVEG	114.2%	119.0%	120.9%	112.9%	105.5%	103.2%	103.1%	103.4%	102.9%	102.8%	104.2%	106.9%	102.8%	120.9%
	SSWOOD	121.0%	125.8%	128.9%	118.1%	109.2%	103.7%	104.4%	103.8%	102.8%	103.3%	106.0%	112.8%	102.8%	128.9%
	SSCOARSE	132.2%	141.3%	146.2%	126.4%	112.4%	104.8%	105.4%	104.7%	103.5%	104.2%	107.8%	116.9%	103.5%	146.2%
	SSFINENC	117.0%	121.7%	124.0%	115.9%	107.8%	104.2%	103.4%	103.4%	102.9%	102.7%	104.4%	108.2%	102.7%	124.0%
	SFLOWVE	116.0%	125.8%	126.7%	116.1%	104.7%	105.1%	102.5%	104.5%	105.4%	103.5%	103.1%	103.1%	102.5%	126.7%
	SFMODVE	63.6%	73.6%	71.8%	75.7%	72.2%	84.4%	74.5%	78.3%	89.4%	84.9%	70.3%	55.7%	55.7%	89.4%
	SFHIVEL	15.8%	23.2%	21.7%	27.5%	26.2%	41.9%	34.6%	40.7%	66.7%	58.8%	29.7%	14.7%	14.7%	66.7%
Deep	DSCOV	33.9%	47.9%	47.0%	54.3%	50.2%	68.0%	63.0%	67.7%	83.5%	77.7%	57.0%	37.1%	33.9%	83.5%
	DSCOV2	92.9%	97.9%	96.6%	96.5%	93.6%	97.9%	94.2%	96.0%	99.0%	97.3%	92.8%	87.1%	87.1%	99.0%
	DSNC	76.4%	80.8%	79.2%	82.4%	83.3%	92.3%	82.9%	86.1%	94.5%	91.0%	79.7%	68.3%	68.3%	94.5%
	DFFINE	47.3%	49.4%	47.3%	56.8%	64.9%	80.4%	69.9%	74.0%	87.6%	82.9%	65.3%	46.5%	46.5%	87.6%
	DFGRCOB	2.8%	7.8%	7.2%	11.2%	7.0%	12.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.3%
	DFCOARSI	60.5%	60.8%	58.7%	67.7%	75.9%	87.9%	83.7%	87.0%	94.7%	92.2%	80.4%	64.3%	58.7%	94.7%
Other	AMSS2	28.4%	35.9%	34.1%	41.9%	42.9%	59.7%	42.6%	46.8%	66.7%	59.7%	37.8%	22.4%	22.4%	66.7%
	ROBRHS	8.4%	20.3%	18.9%	26.0%	16.3%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.0%
	GORHA	74.5%	76.9%	75.2%	80.7%	83.8%	92.0%	88.2%	90.6%	96.4%	94.5%	85.6%	73.9%	73.9%	96.4%
	GORHJ	51.1%	53.6%	51.5%	60.7%	67.5%	82.0%	74.6%	78.8%	90.2%	86.3%	70.3%	51.9%	51.1%	90.2%
	AMSS4	89.1%	89.1%	88.2%	91.4%	93.8%	97.3%	96.4%	97.3%	99.2%	98.6%	95.5%	90.5%	88.2%	99.2%
	EPHEM	94.0%	99.5%	98.2%	97.9%	94.1%	98.2%	94.3%	96.3%	99.2%	97.4%	92.9%	87.5%	87.5%	99.5%
	PLECO	79.2%	90.0%	87.9%	89.4%	83.1%	91.9%	80.0%	83.4%	92.5%	87.8%	76.4%	65.2%	65.2%	92.5%
	TRIC1	85.1%	89.8%	88.9%	90.8%	89.4%	95.1%	90.6%	92.6%	97.1%	95.3%	88.6%	80.4%	80.4%	97.1%
	MACLR	97.4%	100.3%	99.6%	99.0%	97.1%	99.2%	97.9%	98.8%	100.1%	99.3%	97.4%	94.7%	94.7%	100.3%
AVE	RAGE	75.7%	80.6%	80.2%	80.8%	78.5%	84.1%	78.3%	80.1%	86.0%	83.7%	76.6%	71.0%		
ME	DIAN	79.2%	89.1%	87.9%	89.4%	83.8%	92.3%	88.2%	90.6%	96.4%	94.5%	85.6%	73.9%		
MIN	IMUM	2.8%	7.8%	7.2%	11.2%	7.0%	12.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
MAX	MUMI	139.8%	141.3%	146.2%	126.4%	123.7%	107.8%	113.8%	109.1%	105.4%	104.9%	117.6%	144.4%		

#### **West Fork Eno River**

Green	<u>&gt;</u> 80% and	<u>&lt;</u> 120%		Red	< 80%			Yellow	> 120 %						
% AMF by	y month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximum
Shallow	SSYOY	143.4%	136.2%	141.0%	129.7%	121.3%	104.9%	112.0%	108.1%	103.1%	104.7%	117.7%	145.4%	103.1%	145.4%
	SSVEG	96.8%	100.4%	99.3%	99.1%	96.6%	99.2%	97.1%	98.2%	99.8%	98.9%	96.2%	92.9%	92.9%	100.4%
	SSWOOD	96.8%	100.4%	99.3%	99.1%	96.6%	99.2%	97.1%	98.2%	99.8%	98.9%	96.2%	92.9%	92.9%	100.4%
	SSCOARSE	115.8%	119.5%	120.7%	112.8%	105.0%	102.3%	103.2%	103.4%	103.1%	102.9%	105.1%	108.2%	102.3%	120.7%
	SSFINENC	88.1%	94.4%	92.7%	93.7%	90.7%	96.5%	92.4%	94.2%	97.4%	96.0%	90.2%	82.9%	82.9%	97.4%
	SFLOWVE	84.2%	92.4%	90.2%	91.6%	87.8%	95.5%	87.9%	90.5%	96.6%	93.5%	84.4%	74.9%	74.9%	96.6%
	SFMODVE	45.1%	50.4%	48.6%	56.4%	63.4%	80.6%	70.4%	73.6%	84.8%	82.5%	63.3%	44.4%	44.4%	84.8%
	SFHIVEL	10.5%	16.0%	15.3%	19.9%	23.4%	43.3%	33.3%	37.8%	54.5%	56.5%	26.2%	10.4%	10.4%	56.5%
Deep	DSCOV	100.0%	1.7%	1.3%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	1.3%	100.0%
	DSCOV2	64.4%	67.8%	66.2%	72.4%	78.3%	90.1%	86.4%	88.7%	94.4%	93.2%	82.0%	67.2%	64.4%	94.4%
	DSNC	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	DFFINE	0.5%	0.4%	30.0%	0.6%	2.5%	10.0%	10.0%	10.0%	100.0%	100.0%	10.0%	1.7%	0.4%	100.0%
	DFGRCOB	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	DFCOARSI	49.3%	49.2%	47.4%	57.6%	71.8%	86.8%	83.0%	85.8%	93.0%	91.8%	77.3%	57.8%	47.4%	93.0%
Other	AMSS2	19.7%	25.6%	24.4%	31.7%	37.8%	58.1%	39.3%	41.9%	57.8%	55.5%	31.8%	16.6%	16.6%	58.1%
	ROBRHS	0.1%	0.0%	0.0%	0.1%	1.0%	100.0%	100.0%	100.0%	100.0%	100.0%	10.0%	0.4%	0.0%	100.0%
	GORHA	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	GORHJ	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	AMSS4	78.9%	79.5%	78.3%	83.3%	88.9%	95.5%	93.8%	95.1%	97.8%	97.2%	91.6%	82.6%	78.3%	97.8%
	EPHEM	81.6%	85.0%	83.9%	87.1%	88.6%	95.2%	91.8%	93.4%	97.1%	96.1%	89.1%	80.2%	80.2%	97.1%
	PLECO	46.3%	53.0%	51.2%	58.6%	63.3%	80.1%	68.6%	71.7%	83.2%	80.6%	61.5%	43.5%	43.5%	83.2%
	TRIC1	85.3%	88.5%	87.6%	90.2%	90.9%	96.2%	93.1%	94.5%	97.7%	96.8%	90.9%	83.3%	83.3%	97.7%
	MACLR	78.5%	81.6%	80.4%	84.2%	86.8%	94.3%	91.5%	93.3%	96.9%	96.0%	88.7%	79.1%	78.5%	96.9%
AVE	RAGE	73.3%	71.4%	72.1%	76.9%	78.0%	88.2%	84.8%	86.0%	93.8%	93.1%	78.8%	72.4%		
ME	DIAN	84.2%	85.0%	83.9%	90.2%	88.9%	96.2%	93.1%	94.5%	97.8%	97.2%	90.2%	82.6%		
MIN	IMUM	0.1%	0.0%	0.0%	0.1%	1.0%	10.0%	10.0%	10.0%	54.5%	55.5%	10.0%	0.4%		
MAX	MUMI	143.4%	136.2%	141.0%	129.7%	121.3%	104.9%	112.0%	108.1%	103.1%	104.7%	117.7%	145.4%		

# First Broad River (Upper)

Green	<u>&gt;</u> 80% and	<u>&lt;</u> 120%		Red	< 80%			Yellow	> 120 %						
% AMF b	y month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximu
Shallow	SSYOY	176.2%	332.5%	425.9%	381.3%	157.6%	133.3%	53.3%	48.6%	42.5%	42.8%	43.6%	54.4%	42.5%	425.9
	SSVEG	97.3%	123.4%	131.2%	127.1%	93.9%	91.9%	74.1%	73.4%	71.5%	72.5%	71.0%	73.8%	71.0%	131.2
	SSWOOD	94.2%	119.9%	126.8%	123.0%	91.1%	89.5%	72.3%	71.9%	70.0%	71.2%	69.5%	71.8%	69.5%	126.8
	SSCOARSE	73.7%	125.6%	134.0%	129.3%	71.9%	71.4%	58.7%	57.6%	55.9%	58.5%	55.1%	58.0%	55.1%	134.0
	SSFINENC	35.7%	48.7%	47.0%	47.3%	36.1%	39.6%	41.3%	44.5%	47.9%	49.0%	44.4%	38.4%	35.7%	49.0
	SFLOWVE	40.8%	79.9%	80.8%	79.3%	40.0%	42.1%	26.0%	26.6%	26.4%	27.1%	25.2%	24.2%	24.2%	80.8
	SFMODVE	21.2%	37.1%	35.4%	35.5%	21.3%	23.7%	9.8%	10.9%	11.9%	12.2%	10.7%	8.9%	8.9%	37.3
	SFHIVEL	53.0%	59.6%	56.5%	57.7%	53.9%	57.5%	57.0%	62.3%	66.7%	66.2%	62.3%	53.4%	53.0%	66.
Deep	DSCOV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.
	DSCOV2	40.9%	45.1%	41.8%	43.0%	43.3%	49.3%	45.0%	48.4%	53.4%	53.1%	48.7%	40.3%	40.3%	53.
	DSNC	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.
	DFFINE	13.6%	17.0%	14.9%	15.8%	15.2%	19.3%	10.1%	11.7%	14.7%	14.5%	12.1%	8.2%	8.2%	19.
	DFGRCOB	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	100.
	DFCOARS	18.3%	25.1%	22.4%	23.5%	20.0%	24.3%	17.1%	19.5%	23.3%	23.0%	19.8%	14.4%	14.4%	25.
Other	AMSS2	45.6%	56.8%	54.3%	55.2%	46.9%	51.1%	38.4%	40.9%	43.8%	43.9%	40.7%	35.5%	35.5%	56.
	GORHA	50.3%	56.8%	53.4%	54.7%	52.5%	57.9%	50.9%	53.6%	57.3%	57.3%	53.6%	46.8%	46.8%	57.
	GORHJ	35.9%	46.4%	43.2%	44.5%	37.9%	43.0%	30.3%	32.4%	35.3%	35.5%	32.3%	27.3%	27.3%	46.
	EPHEM	80.7%	97.6%	98.9%	97.8%	79.9%	80.9%	61.9%	62.9%	62.4%	63.1%	61.4%	60.7%	60.7%	98.
	PLECO	40.2%	51.2%	48.4%	49.2%	41.1%	45.3%	38.0%	41.3%	44.5%	44.7%	41.1%	34.7%	34.7%	51.
	TRIC1	74.8%	87.8%	87.0%	87.0%	74.8%	76.7%	59.1%	60.3%	60.8%	61.3%	59.4%	57.4%	57.4%	87.
	MACLR	79.4%	102.9%	105.8%	103.9%	78.1%	78.8%	52.6%	53.5%	52.8%	53.6%	51.7%	51.6%	51.6%	105.
AVI	ERAGE	51.0%	72.1%	76.6%	74.1%	55.0%	60.7%	47.4%	48.6%	49.6%	50.0%	47.7%	40.9%		
ME	DIAN	40.9%	56.8%	53.4%	54.7%	46.9%	57.5%	50.9%	48.6%	52.8%	53.1%	48.7%	40.3%		
MIN	IMUM	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
MAX	(IMUM	176.2%	332.5%	425.9%	381.3%	157.6%	133.3%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

# First Broad River (Middle)

Green	≥ 80% and	<u>&lt;</u> 120%		Red	< 80%			Yellow	> 120 %						
% AMF by	/ month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximum
Shallow	SSYOY	143.2%	181.7%	205.4%	194.7%	134.8%	122.3%	91.1%	86.9%	81.3%	82.4%	84.2%	95.5%	81.3%	205.4%
	SSVEG	167.8%	146.6%	154.0%	150.9%	162.7%	150.1%	178.7%	172.1%	166.0%	164.7%	174.7%	191.6%	146.6%	191.6%
	SSWOOD	167.8%	146.6%	154.0%	150.9%	162.7%	150.1%	178.7%	172.1%	166.0%	164.7%	174.7%	191.6%	146.6%	191.6%
	SSCOARSE	474.1%	401.6%	528.6%	492.3%	423.1%	309.2%	542.2%	469.3%	414.2%	407.7%	476.7%	662.3%	309.2%	662.3%
	SSFINENC	123.9%	112.2%	114.1%	113.3%	122.7%	119.4%	140.2%	138.8%	137.7%	137.0%	140.3%	144.4%	112.2%	144.4%
	SFLOWVE	665.3%	614.1%	1134.8%	855.7%	534.4%	346.4%	364.2%	305.6%	264.2%	261.3%	314.7%	475.8%	261.3%	1134.8%
	SFMODVE	169.5%	197.8%	240.2%	219.7%	154.7%	136.7%	94.8%	90.7%	84.5%	85.0%	86.3%	101.0%	84.5%	240.2%
	SFHIVEL	33.7%	57.0%	55.8%	55.7%	33.8%	36.3%	18.6%	20.6%	21.7%	22.2%	20.1%	17.5%	17.5%	57.0%
Deep	DSCOV	39.6%	38.2%	37.0%	37.4%	40.7%	48.4%	51.9%	54.8%	59.2%	60.7%	55.0%	48.1%	37.0%	60.7%
	DSCOV2	110.3%	107.3%	107.5%	107.4%	110.1%	108.9%	106.9%	106.3%	105.6%	105.0%	106.1%	107.7%	105.0%	110.3%
	DSNC	172.4%	131.0%	136.2%	133.9%	168.5%	161.9%	96.7%	94.8%	91.7%	90.8%	92.0%	98.5%	90.8%	172.4%
	DFFINE	72.2%	99.1%	100.3%	99.3%	71.4%	72.5%	40.3%	40.6%	40.2%	40.9%	39.4%	39.2%	39.2%	100.3%
	DFGRCOB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	DFCOARSI	49.0%	62.4%	60.3%	61.1%	50.0%	53.8%	38.1%	40.2%	42.4%	42.7%	39.7%	35.6%	35.6%	62.4%
Other	AMSS2	92.8%	100.1%	100.4%	100.1%	92.5%	92.9%	74.0%	74.4%	74.2%	74.6%	73.7%	73.5%	73.5%	100.4%
	GORHA	85.9%	90.5%	89.8%	90.1%	86.4%	88.0%	81.6%	82.4%	83.3%	83.5%	82.2%	80.2%	80.2%	90.5%
	GORHJ	84.3%	95.2%	95.3%	94.9%	84.0%	85.1%	70.2%	71.1%	71.1%	71.6%	70.1%	69.0%	69.0%	95.3%
	EPHEM	169.9%	169.0%	184.6%	178.0%	161.6%	145.3%	136.1%	129.7%	122.9%	122.5%	129.0%	146.2%	122.5%	184.6%
	PLECO	182.5%	171.3%	186.8%	180.2%	173.7%	155.5%	136.7%	131.1%	124.3%	123.1%	129.7%	147.7%	123.1%	186.8%
	TRIC1	121.0%	128.0%	133.7%	131.3%	117.8%	113.4%	98.9%	97.2%	94.5%	94.5%	95.2%	100.7%	94.5%	133.7%
	MACLR	144.6%	142.8%	151.3%	147.7%	139.8%	130.3%	127.4%	123.3%	118.8%	119.0%	123.2%	134.1%	118.8%	151.3%
AVE	RAGE	155.7%	152.0%	189.1%	171.2%	144.1%	125.1%	127.0%	119.1%	112.6%	112.1%	119.4%	141.0%		
ME	DIAN	123.9%	128.0%	133.7%	131.3%	122.7%	119.4%	96.7%	94.8%	91.7%	90.8%	92.0%	100.7%		
MIN	IMUM	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
MAX	IMUM	665.3%	614.1%	1134.8%	855.7%	534.4%	346.4%	542.2%	469.3%	414.2%	407.7%	476.7%	662.3%		

# First Broad River (Lower)

Green	≥ 80% and	<u>&lt;</u> 120%		Red	< 80%			Yellow	> 120 %						
% AMF by	y month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximum
Shallow	SSYOY	273.4%	276.7%	309.5%	298.3%	253.1%	202.9%	201.7%	183.4%	166.5%	163.0%	184.7%	229.6%	163.0%	309.5%
	SSVEG	348.3%	280.0%	328.2%	308.0%	318.4%	250.4%	304.3%	274.6%	250.9%	246.4%	285.0%	366.4%	246.4%	366.4%
	SSWOOD	348.3%	280.0%	328.2%	308.1%	318.4%	250.4%	304.3%	274.6%	250.9%	246.4%	285.0%	366.4%	246.4%	366.4%
	SSCOARSE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	SSFINENC	196.5%	172.6%	187.1%	181.0%	187.1%	166.5%	192.7%	183.0%	174.1%	172.9%	185.8%	211.7%	166.5%	211.7%
	SFLOWVE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	SFMODVE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	SFHIVEL	100.0%	133.3%	133.3%	133.3%	100.0%	100.0%	100.0%	100.0%	75.0%	75.0%	75.0%	100.0%	75.0%	133.3%
Deep	DSCOV	59.1%	59.6%	57.4%	59.4%	64.3%	68.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	68.7%
	DSCOV2	116.8%	117.4%	119.3%	118.2%	114.6%	112.0%	104.9%	103.5%	101.6%	101.7%	102.7%	106.7%	101.6%	119.3%
	DSNC	114.1%	164.7%	170.4%	166.9%	111.4%	103.3%	79.1%	77.1%	74.2%	74.9%	75.3%	78.8%	74.2%	170.4%
	DFFINE	75.9%	105.8%	107.7%	105.8%	73.7%	74.4%	36.0%	35.9%	35.5%	37.0%	35.7%	35.7%	35.5%	107.7%
	DFGRCOB													0.0%	0.0%
	DFCOARS	62.5%	78.1%	77.3%	77.9%	63.3%	65.3%	45.6%	47.1%	48.8%	49.2%	47.1%	44.1%	44.1%	78.1%
Other	AMSS2	84.9%	92.9%	92.3%	92.3%	85.3%	86.6%	69.9%	70.8%	71.2%	71.4%	70.2%	68.7%	68.7%	92.9%
	GORHA	57.5%	70.3%	68.1%	69.0%	60.5%	64.3%	52.1%	53.9%	56.0%	56.3%	53.5%	49.2%	49.2%	70.3%
	GORHJ	59.2%	75.7%	74.3%	74.5%	59.8%	62.6%	45.4%	47.1%	48.3%	48.8%	46.3%	43.3%	43.3%	75.7%
	EPHEM	239.9%	218.6%	248.2%	235.7%	204.8%	174.1%	158.0%	147.2%	136.3%	135.0%	146.4%	175.8%	135.0%	248.2%
	PLECO	282.9%	252.1%	297.3%	278.3%	232.4%	191.0%	163.1%	150.5%	136.9%	135.3%	147.0%	182.8%	135.3%	297.3%
	TRIC1	121.0%	124.5%	130.2%	127.6%	113.7%	109.6%	96.5%	95.2%	92.9%	92.9%	93.2%	97.9%	92.9%	130.2%
	MACLR	168.3%	153.8%	164.1%	159.7%	153.7%	140.9%	141.0%	135.6%	129.9%	129.6%	135.7%	150.3%	129.6%	168.3%
AVE	RAGE	150.4%	147.8%	159.6%	154.7%	140.7%	126.2%	119.7%	114.0%	107.5%	106.8%	113.4%	130.4%		
ME	DIAN	107.1%	121.0%	124.8%	122.9%	105.7%	101.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
MIN	IMUM	57.5%	59.6%	57.4%	59.4%	59.8%	62.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
MAX	MUMI	348.3%	280.0%	328.2%	308.1%	318.4%	250.4%	304.3%	274.6%	250.9%	246.4%	285.0%	366.4%		

# **Rocky River**

Green	≥ 80% and	<u>&lt;</u> 120%		Red	< 80%			Yellow	> 120 %						
% AMF by	y month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximum
Shallow	SSYOY	193.7%	197.2%	209.6%	139.1%	116.1%	100.5%	109.4%	106.9%	101.9%	106.6%	127.3%	176.1%	100.5%	209.6%
	SSVEG	126.9%	145.4%	148.8%	115.4%	105.0%	102.7%	104.5%	104.6%	103.2%	102.9%	107.2%	114.4%	102.7%	148.8%
	SSWOOD	124.0%	140.8%	143.6%	113.9%	104.6%	102.5%	104.0%	104.1%	103.0%	102.6%	106.3%	112.6%	102.5%	143.6%
	SSCOARSE	148.9%	177.8%	185.4%	125.5%	108.5%	104.0%	106.7%	106.6%	104.2%	104.2%	111.8%	125.2%	104.0%	185.4%
	SSFINENC	109.1%	119.6%	120.2%	107.0%	102.2%	102.8%	102.2%	102.4%	102.7%	101.4%	101.9%	102.3%	101.4%	120.2%
	SFLOWVE	115.2%	152.1%	151.5%	114.9%	103.7%	109.7%	103.4%	104.9%	109.2%	101.3%	98.0%	92.8%	92.8%	152.1%
	SFMODVE	59.4%	65.0%	63.5%	73.9%	81.2%	95.9%	78.2%	81.1%	90.2%	85.0%	65.5%	53.3%	53.3%	95.9%
	SFHIVEL	35.7%	34.4%	33.4%	55.8%	70.2%	89.2%	55.1%	58.6%	72.2%	65.7%	41.0%	27.4%	27.4%	89.2%
Deep	DSCOV	53.6%	52.9%	51.7%	66.4%	79.8%	92.9%	84.4%	86.8%	93.1%	89.7%	74.1%	57.1%	51.7%	93.1%
	DSCOV2	89.2%	96.9%	96.0%	94.9%	95.3%	100.2%	95.3%	96.4%	99.4%	96.6%	90.4%	83.2%	83.2%	100.2%
	DSNC	74.0%	88.8%	86.2%	85.6%	86.7%	97.6%	91.3%	93.3%	98.7%	94.8%	83.5%	71.3%	71.3%	98.7%
	DFFINE	34.3%	31.3%	30.4%	52.8%	70.1%	88.8%	66.1%	69.9%	82.7%	77.7%	51.2%	35.0%	30.4%	88.8%
	DFGRCOB	1.2%	2.8%	2.7%	7.6%	6.2%	11.9%	1.6%	2.2%	5.3%	5.3%	1.2%	0.6%	0.6%	11.9%
	DFCOARSI	61.5%	55.3%	54.2%	76.3%	87.8%	96.8%	89.3%	91.2%	95.9%	93.3%	80.3%	66.7%	54.2%	96.8%
Other	AMSS2	18.5%	21.2%	20.4%	37.0%	47.4%	69.5%	37.0%	41.3%	55.6%	53.3%	25.3%	15.1%	15.1%	69.5%
	GORHA	71.9%	71.4%	70.4%	83.9%	90.3%	97.8%	90.5%	92.1%	96.3%	93.6%	82.9%	71.9%	70.4%	97.8%
	GORHJ	57.2%	56.8%	55.5%	73.4%	83.2%	95.0%	83.3%	85.9%	92.8%	89.0%	72.3%	57.7%	55.5%	95.0%
	EPHEM	96.8%	105.9%	104.4%	98.7%	97.2%	101.8%	97.0%	98.0%	101.1%	97.7%	92.5%	85.8%	85.8%	105.9%
	PLECO	76.0%	94.7%	92.8%	90.9%	87.7%	99.8%	82.5%	85.0%	95.0%	86.5%	72.0%	59.8%	59.8%	99.8%
	TRIC1	81.5%	87.8%	87.0%	90.9%	92.5%	98.6%	92.2%	93.4%	94.9%	94.4%	86.0%	77.5%	77.5%	98.6%
	MACLR	96.7%	104.5%	103.7%	98.8%	98.7%	101.1%	99.2%	99.8%	101.1%	99.4%	97.0%	93.1%	93.1%	104.5%
AVE	RAGE	82.2%	90.6%	91.0%	85.8%	86.4%	93.3%	84.4%	85.9%	90.4%	87.7%	79.4%	75.2%		
ME	DIAN	76.0%	88.8%	87.0%	90.9%	90.3%	98.6%	91.3%	93.3%	96.3%	94.4%	83.5%	71.9%		
MIN	IMUM	1.2%	2.8%	2.7%	7.6%	6.2%	11.9%	1.6%	2.2%	5.3%	5.3%	1.2%	0.6%		
MAX	IMUM	193.7%	197.2%	209.6%	139.1%	116.1%	109.7%	109.4%	106.9%	109.2%	106.6%	127.3%	176.1%		

# **Tar River**

			Green	≥ 80% a	nd ≤ 1209	%	Red	< 80 %		Yellow	> 120%				
		winter	winter	winter	Spring	Spring	Spring	Summer	Summer	Summer	Fall	Fall	winter		
% AMF by	/ month	30%	40%	40%	40%	30%	30%	20%	20%	20%	20%	20%	20%		
Guild		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Minimum	Maximum
Shallow	SSYOY	421.9%	318.2%	318.2%	165.7%	203.6%	203.6%	120.3%	120.3%	120.3%	127.4%	127.4%	519.8%	120.3%	519.8%
	SSVEG	263.8%	215.5%	215.5%	144.5%	168.0%	168.0%	121.5%	121.5%	121.5%	125.7%	125.7%	335.9%	121.5%	335.9%
	SSWOOD	263.8%	215.6%	215.6%	144.5%	168.0%	168.0%	121.5%	121.5%	121.5%	125.6%	125.6%	336.0%	121.5%	336.0%
	SSCOARSE	179.5%	179.5%	179.5%	134.5%	134.5%	134.5%	102.0%	102.0%	102.0%	100.3%	100.3%	165.3%	100.3%	179.5%
	SSFINENC	202.9%	179.3%	179.3%	134.8%	148.0%	148.0%	118.3%	118.3%	118.3%	120.2%	120.2%	241.4%	118.3%	241.4%
	SFLOWVE	215.6%	203.4%	203.4%	140.6%	147.1%	147.1%	112.8%	112.8%	112.8%	111.3%	111.3%	225.2%	111.3%	225.2%
	SFMODVE	306.6%	236.4%	236.4%	155.4%	191.4%	191.4%	149.8%	149.8%	149.8%	140.1%	140.1%	326.4%	140.1%	326.4%
	SFHIVEL	180.0%	210.0%	210.0%	156.0%	136.0%	136.0%	89.5%	89.5%	89.5%	81.8%	81.8%	100.0%	81.8%	210.0%
Deep	DSCOV	97.9%	102.8%	102.8%	101.5%	97.8%	97.8%	77.3%	77.3%	77.3%	75.8%	75.8%	63.0%	63.0%	102.8%
	DSCOV2	123.7%	121.6%	121.6%	112.9%	114.5%	114.5%	104.7%	104.7%	104.7%	104.3%	104.3%	116.9%	104.3%	123.7%
	DSNC	133.8%	139.6%	139.6%	122.8%	118.7%	118.7%	101.5%	101.5%	101.5%	99.9%	99.9%	112.1%	99.9%	139.6%
	DFFINE	80.7%	98.5%	98.5%	98.0%	83.2%	83.2%	76.9%	76.9%	76.9%	73.7%	73.7%	56.1%	56.1%	98.5%
	DFGRCOB	12.7%	19.1%	19.1%	28.2%	20.3%	20.3%	36.5%	36.5%	36.5%	33.9%	33.9%	11.9%	11.9%	36.5%
	DFCOARSI	62.4%	74.7%	74.7%	82.1%	71.0%	71.0%	69.0%	69.0%	69.0%	72.1%	72.1%	46.6%	46.6%	82.1%
Other	AMSS2			81.8%	88.1%	77.3%								77.3%	88.1%
	ROBRHS														
	GORHA	85.6%	90.7%	90.7%	93.7%	89.5%	89.5%	92.1%	92.1%	92.1%	90.7%	90.7%	76.9%	76.9%	93.7%
	GORHJ	95.3%	106.5%	106.5%	102.3%	93.5%	93.5%	89.8%	89.8%	89.8%	87.4%	87.4%	77.7%	77.7%	106.5%
	AMSS4														
	EPHEM	155.8%	149.6%	149.6%	126.1%	130.5%	130.5%	111.0%	111.0%	111.0%	110.0%	110.0%	150.8%	110.0%	155.8%
	PLECO	139.4%	142.7%	142.7%	124.4%	122.2%	122.2%	105.3%	105.3%	105.3%	104.0%	104.0%	122.9%	104.0%	142.7%
	TRIC1	109.5%	113.3%	113.3%	107.8%	104.9%	104.9%	97.5%	97.5%	97.5%	96.3%	96.3%	97.0%	96.3%	113.3%
	MACLR	138.2%	133.6%	133.6%	118.0%	121.3%	121.3%	112.4%	112.4%	112.4%	108.2%	108.2%	138.2%	108.2%	138.2%
AVE	RAGE	163.4%	152.5%	149.2%	118.2%	121.0%	123.2%	100.5%	100.5%	100.5%	99.4%	99.4%	166.0%		
ME	DIAN	138.8%	141.1%	139.6%	122.8%	121.3%	121.7%	103.3%	103.3%	103.3%	102.1%	102.1%	119.9%		
MIN	IMUM	12.7%	19.1%	19.1%	28.2%	20.3%	20.3%	36.5%	36.5%	36.5%	33.9%	33.9%	11.9%		
MAX	IMUM	421.9%	318.2%	318.2%	165.7%	203.6%	203.6%	149.8%	149.8%	149.8%	140.1%	140.1%	519.8%		