Specifying Water Flow Requirements for the Savannah River to Support River Health

A cooperative partnership between the

US Army Corps of Engineers

The Nature Conservancy

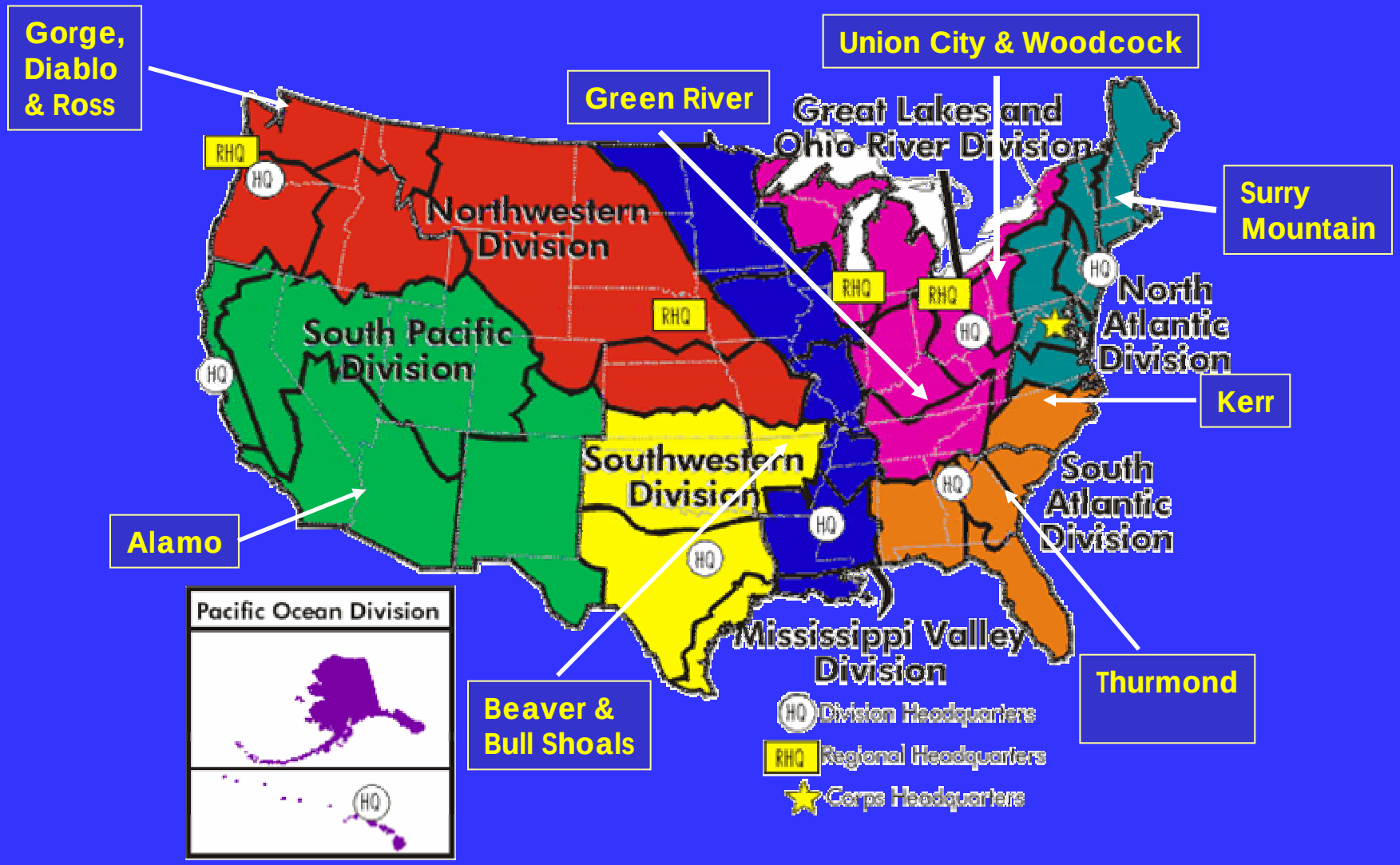
Georgia Department of Natural Resources

South Carolina Department of Natural Resources

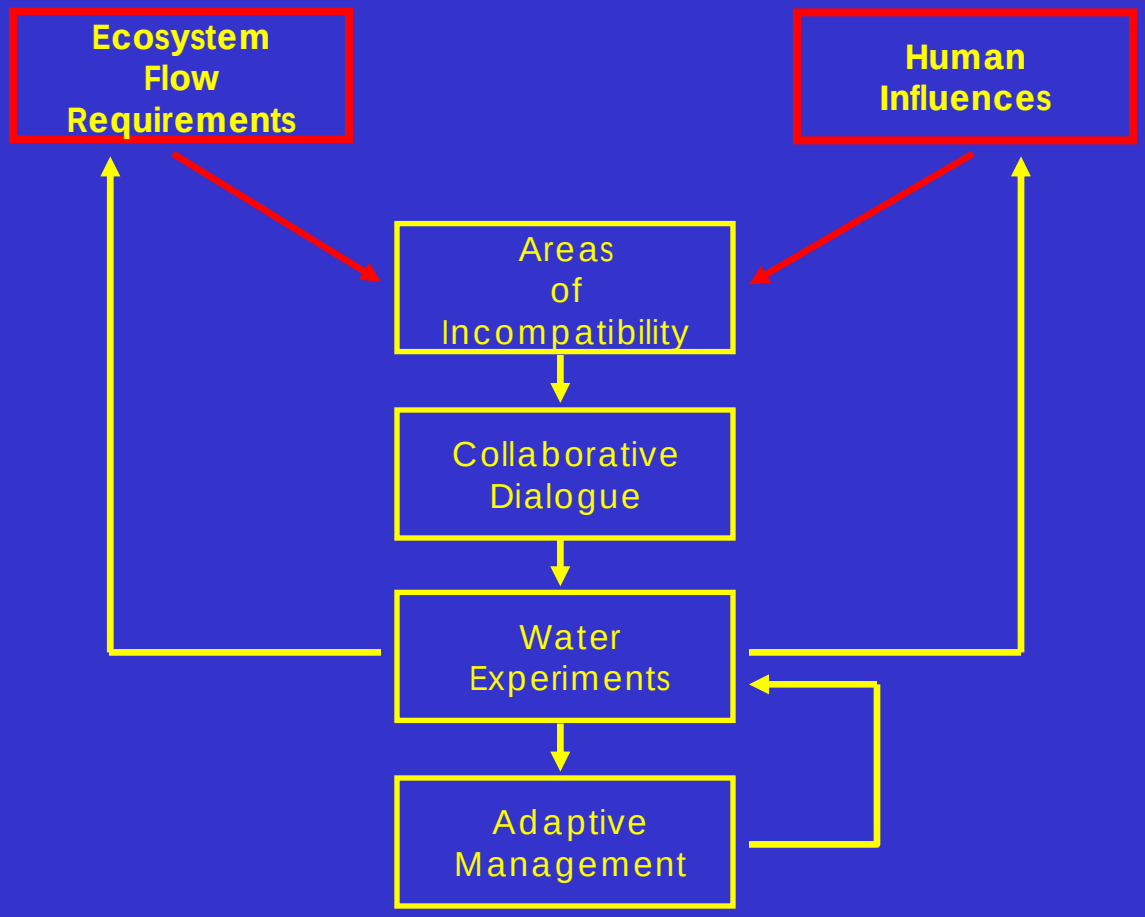
US Fish and Wildlife Service

The Nature Conservancy®

Sustainable River Project Sites



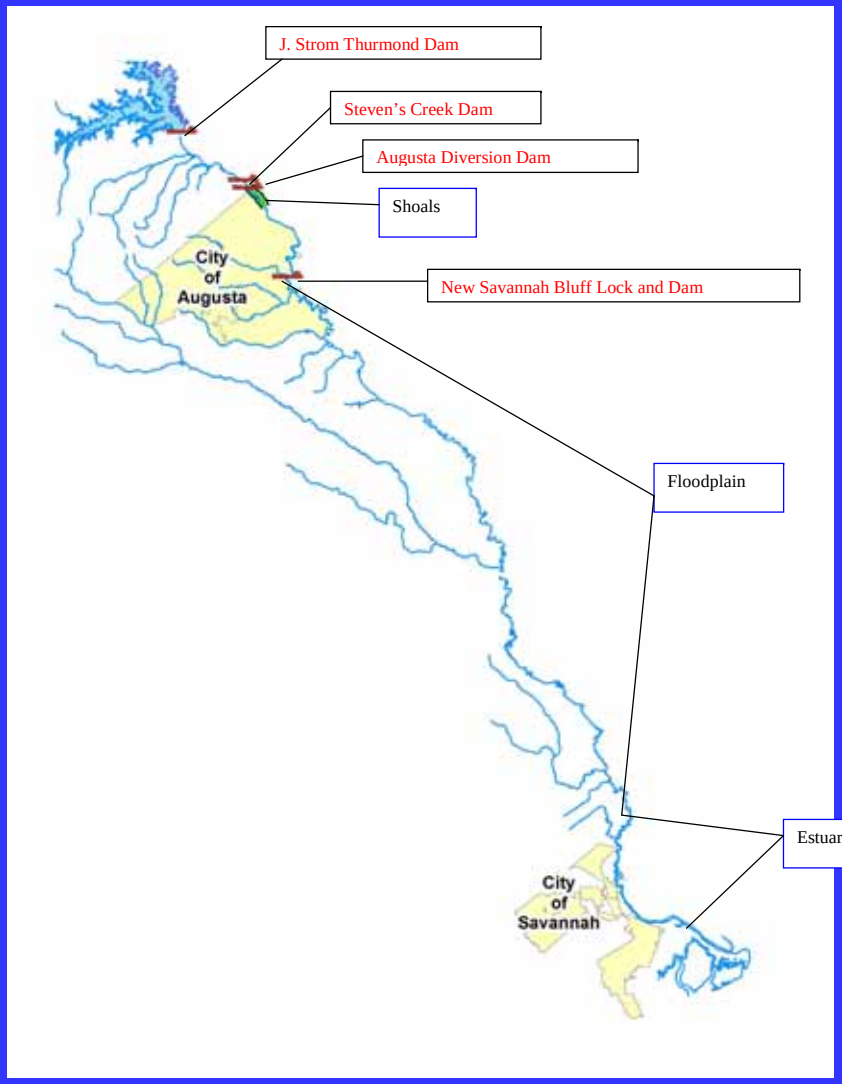
A Framework for Ecologically Sustainable Water Management



Key Components of Savannah River Ecosystem Flow Prescription

- Hydrologic Characterization of Savannah River
- Annotated Bibliography
- Summary Report
- Ecosystem Flow Workshop

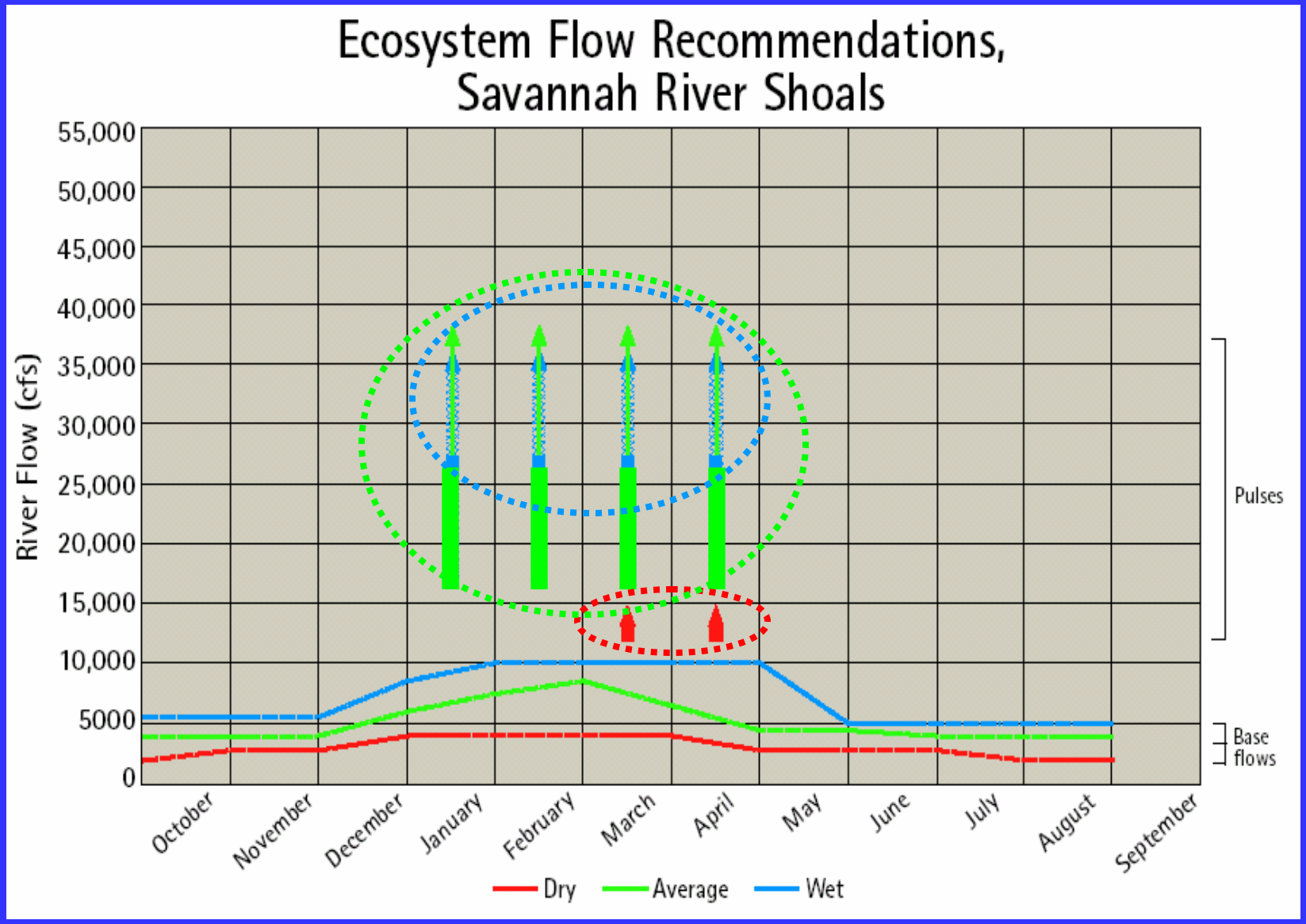
Savannah River Ecosystem Flow Workshop Participants



Ecosystem Flow Recommendations: Lower Savannah River

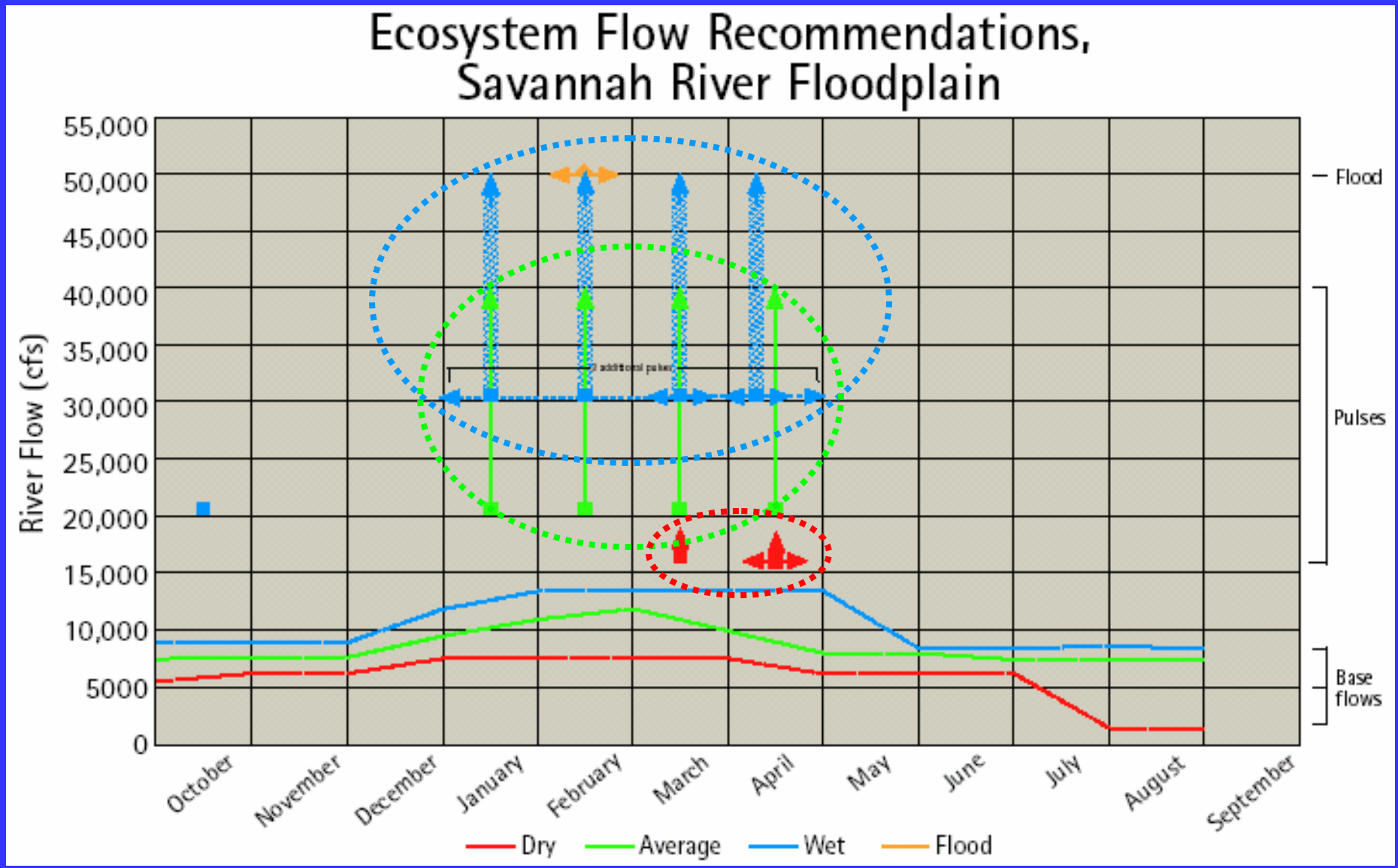
Goal of Ecosystem Flow Recommendations

The goal is *not* to create optimal conditions for all species all of the time; rather, we want to create adequate conditions for all native species *enough* of the time.


Ecosystem Flow Recommendations,
Savannah River Shoals
River Flow (cfs)
55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5000
0
October
November
December
January
February
March
April
May
June
July
August
September
Pulses
Base flows
Dry
Average
Wet

Ecological Benefits of Implementation

- Increased spawning habitat for anadromous species
- Decreased predation on Shoals Spider Lily

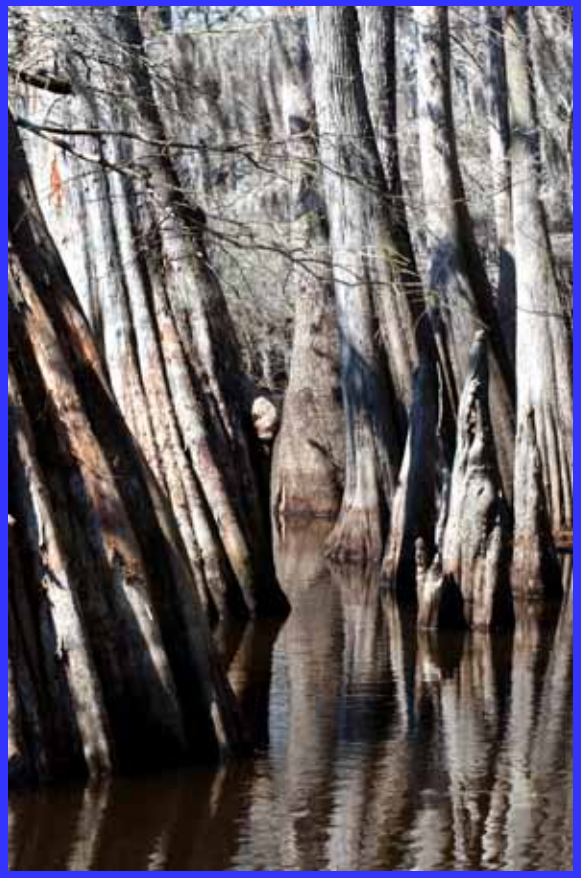

Ecosystem Flow Recommendations,
Savannah River Floodplain
River Flow (cfs)
55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5000
0
October
November
December
January
February
March
April
May
June
July
August
September
Flood
Pulses
Base flows
Dry
Average
Wet
Flood

Ecological Benefits of Implementation

Low flows will facilitate:

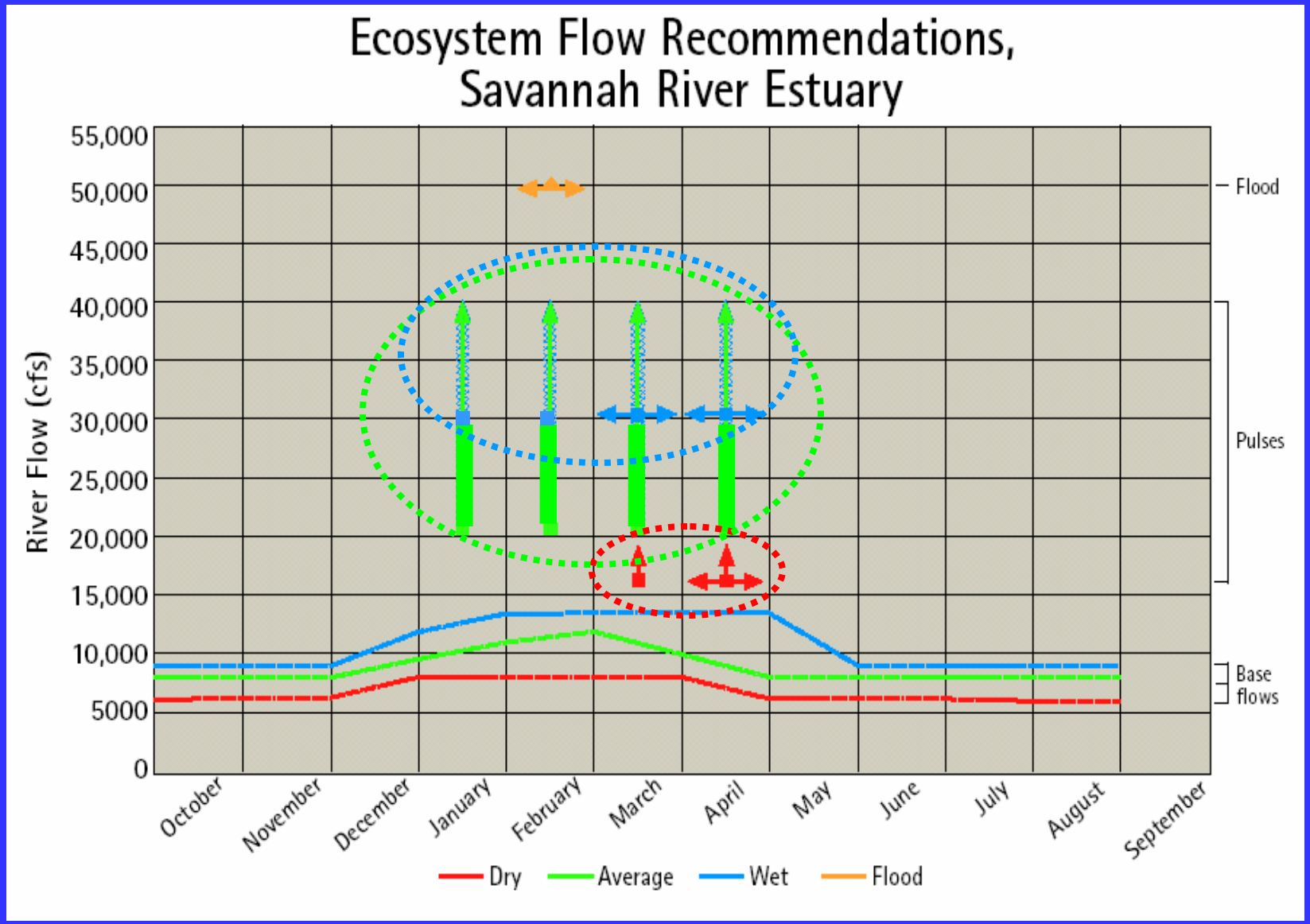
- Germination and establishment of bottomland hardwood species
- Growth of adult trees
- Juvenile fish survival
- Spawning in gravel shoals

Ecological Benefits of Implementation



Pulses will facilitate:

- Seed dispersal
- Floodplain access for fish spawning and foraging
- Nutrient replenishment to floodplain soils
- Nesting habitat for birds


Ecosystem Flow Recommendations,
Savannah River Estuary
River Flow (cfs)
55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5000
0
October
November
December
January
February
March
April
May
June
July
August
September
Flood
Pulses
Base flows
Dry
Average
Wet
Flood

Ecological Benefits of Implementation

Pulses will facilitate:

- Reduced parasitism of oysters and blue crabs
- Nutrient cycling
- Invertebrate productivity
- Seed dispersal
- Fish habitat utilization