

*Fish Movements in the
Alabama River System, 1995-2002*

Maurice F. Mettee
Geological Survey of Alabama
P.O. Box 869999
Tuscaloosa, AL 35486-6999
205.349.2852
smettee@gsa.state.al.us

Target Species

southeastern blue sucker - *Cycleptus meridionalis*
paddlefish - *Polyodon spathula*

Methods

- ◆ Netting and tagging operations were completed below Millers Ferry Lock and Dam in March and April.
- ◆ Most fish were measured, weighed, and their gender was determined, if possible.
- ◆ A sonic tag was implanted in the abdominal cavity.
- ◆ A numbered anchor tag was inserted through the left side of the body cavity.
- ◆ Fish were held until they revived and released.
- ◆ Tracking trips were completed every 4 to 6 weeks from June through September.
- ◆ Tagged fish locations were geo-referenced.







Southeastern Blue Sucker (SBS) Results

1. 940 fish were collected from 1995-2002.
2. Males outnumbered females 2:1.
3. Males live 34 years; females live 32 years.
4. Spawning occurred below Millers Ferry when water temperatures reached 16°-21°C.
5. 128 (20%) of 643 fish anchor tagged from 1995-2001 have been recaptured one or more times. One 1995 tagged fish recaptured in 1997, 2000, and 3 times in 2002.
6. 100 of 129 sonic tagged fish have been found.
7. Over half of all detected fish were downstream of Claiborne Lock and Dam.
8. Some fish returned to the Millers Ferry tailwater a year later.

Southeastern Blue Sucker

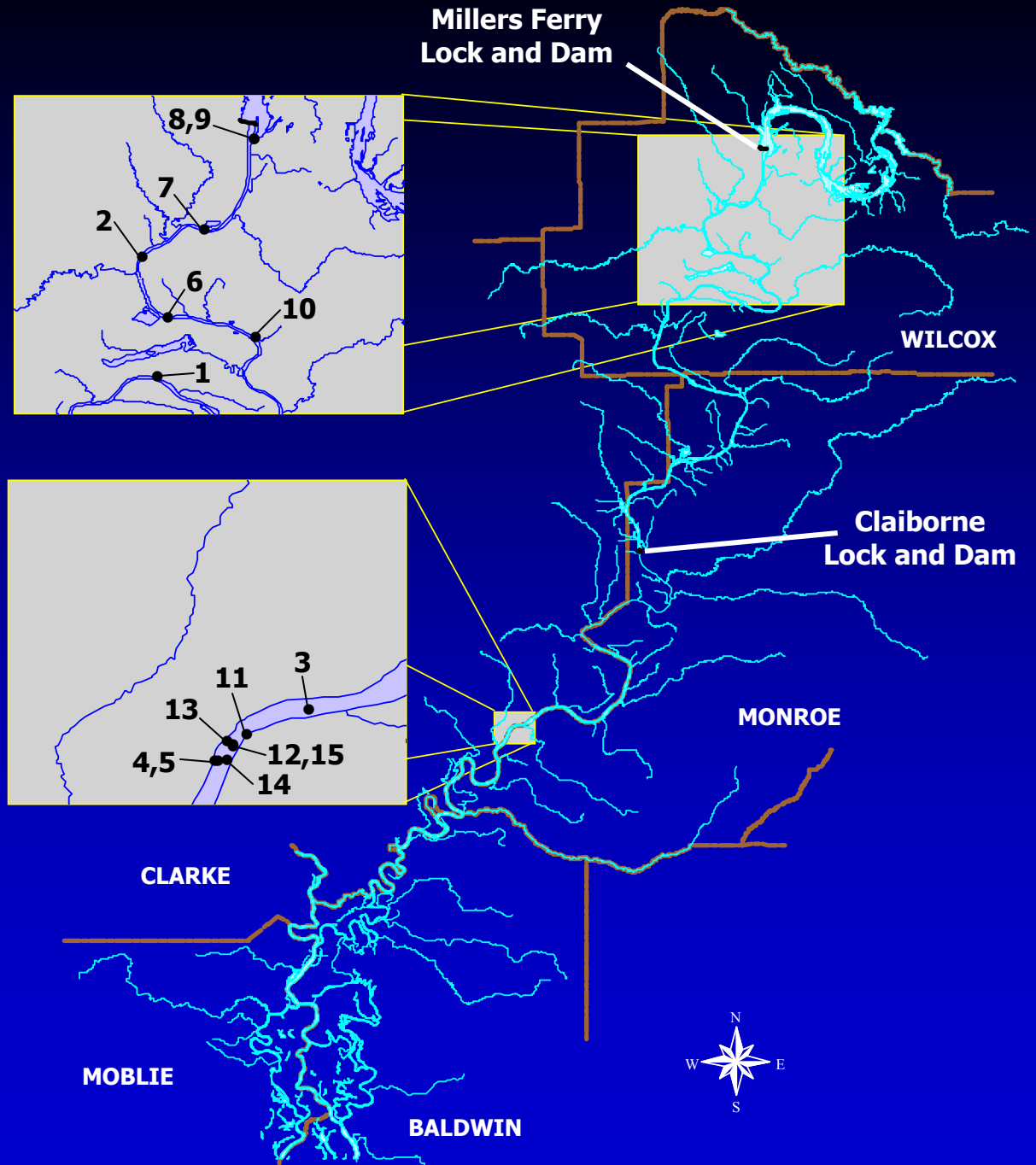
Tag Number : 2-3-3-6

Tag Date : 3/30/1998

Tag location : Millers Ferry

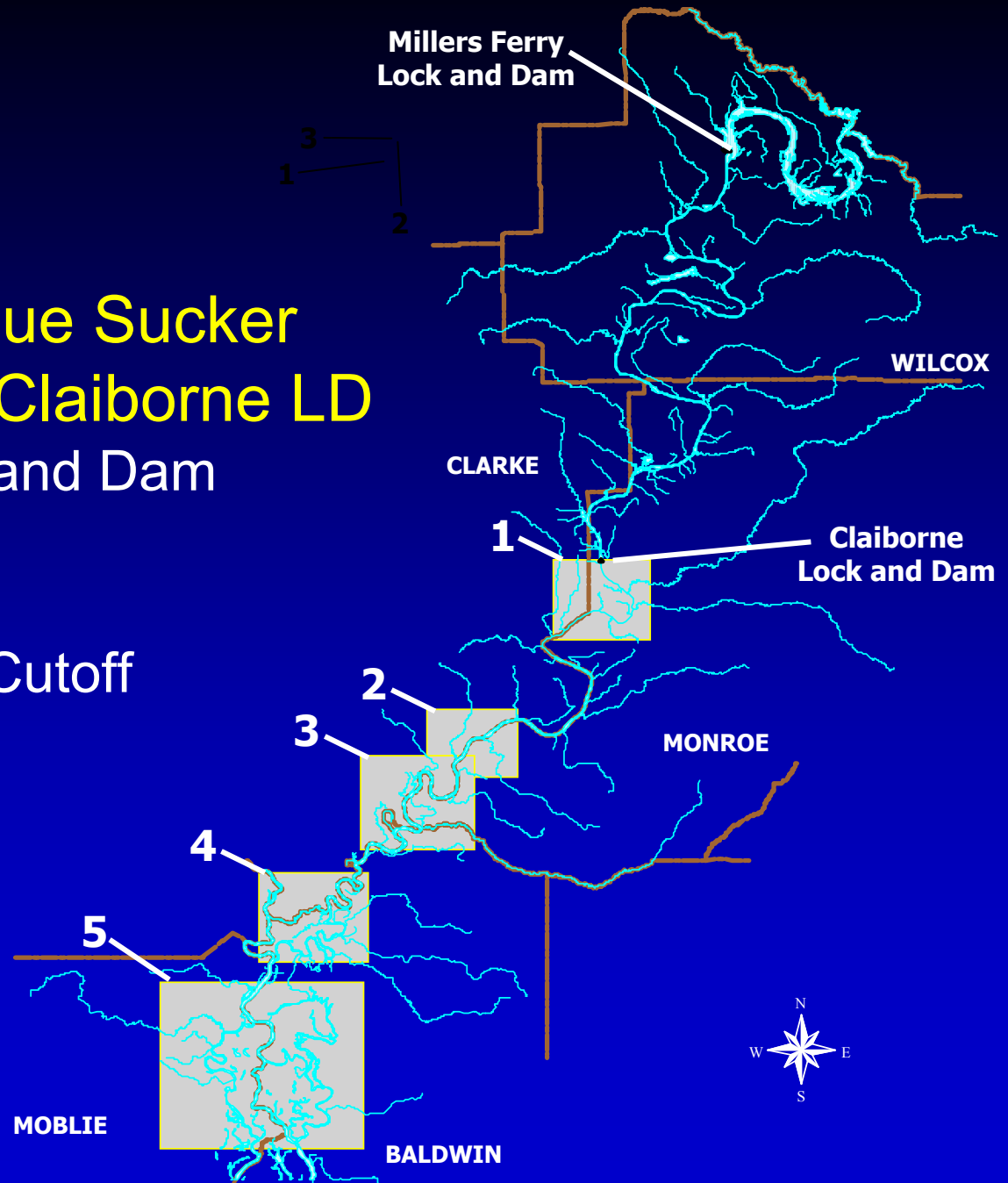
Detection Dates

- | | |
|----|-----------|
| 1 | 4/01/1998 |
| 2 | 4/06/1998 |
| 3 | 4/15/1998 |
| 4 | 8/20/1998 |
| 5 | 9/10/1999 |
| 6 | 3/04/1999 |
| 7 | 3/11/1999 |
| 8 | 3/23/1999 |
| 9 | 3/29/1999 |
| 10 | 3/30/1999 |
| 11 | 6/24/1999 |
| 12 | 7/27/1999 |
| 13 | 7/27/1999 |
| 14 | 8/24/1999 |
| 15 | 9/22/1999 |



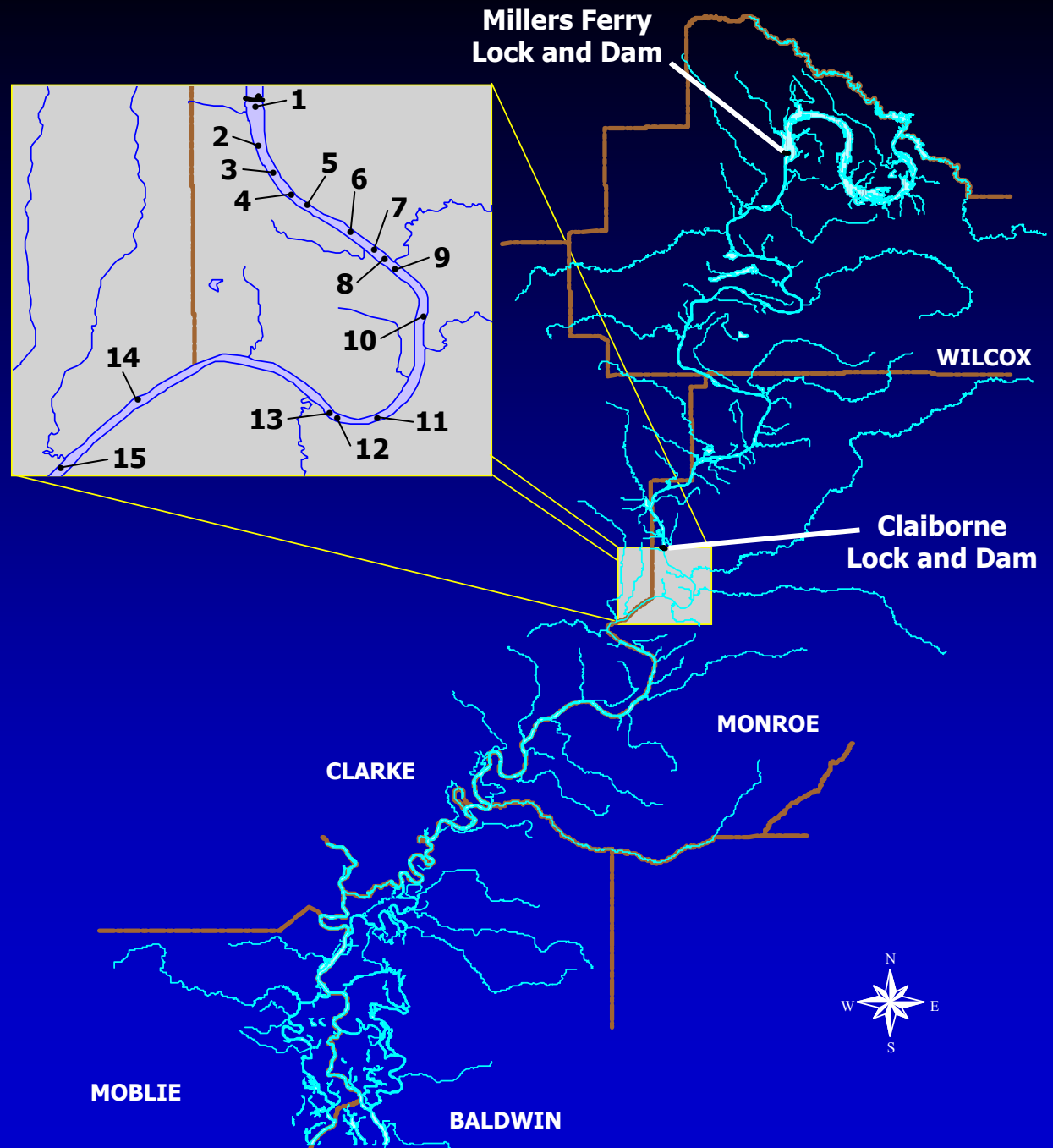
Southeastern Blue Sucker Habitats Below Claiborne LD

1. Claiborne Lock and Dam
2. Eureka Landing
3. Dixie Landing
4. Alabama River Cutoff
5. Mobile Delta



SBS summer habitats below Claiborne Lock and Dam

1	3497	(2002)
2	225	(2002)
3	336	(1999-00)
4	479	(2002)
5	339	(1999)
6	555	(1999-00)
7	88	(1998-00)
8	2255	(1998-00)
9	357	(1998-99)
10	444	(1999)
11	77	(2001)
12	239	(2001-02)
13	3335	(1998-99)
14	266	(1996-97)
15	294	(1999-00)



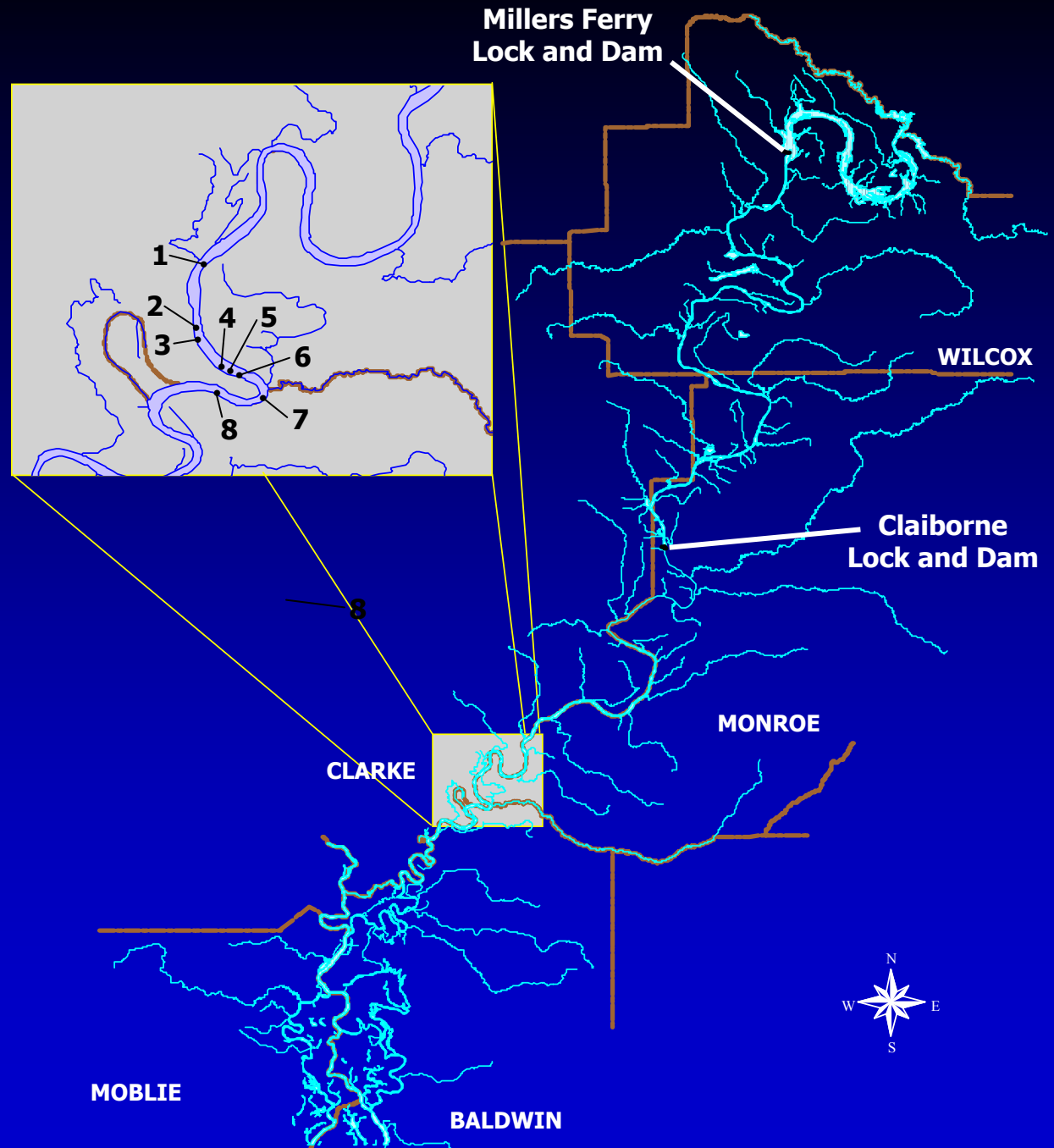
SBS summer habitats near Eureka Landing

1	3345	(2002)
2	2444	(1998-99)
3	337	(2000-02)
4	2227	(2000-02)
5	2336	(1998-99)
6	218	(2002)



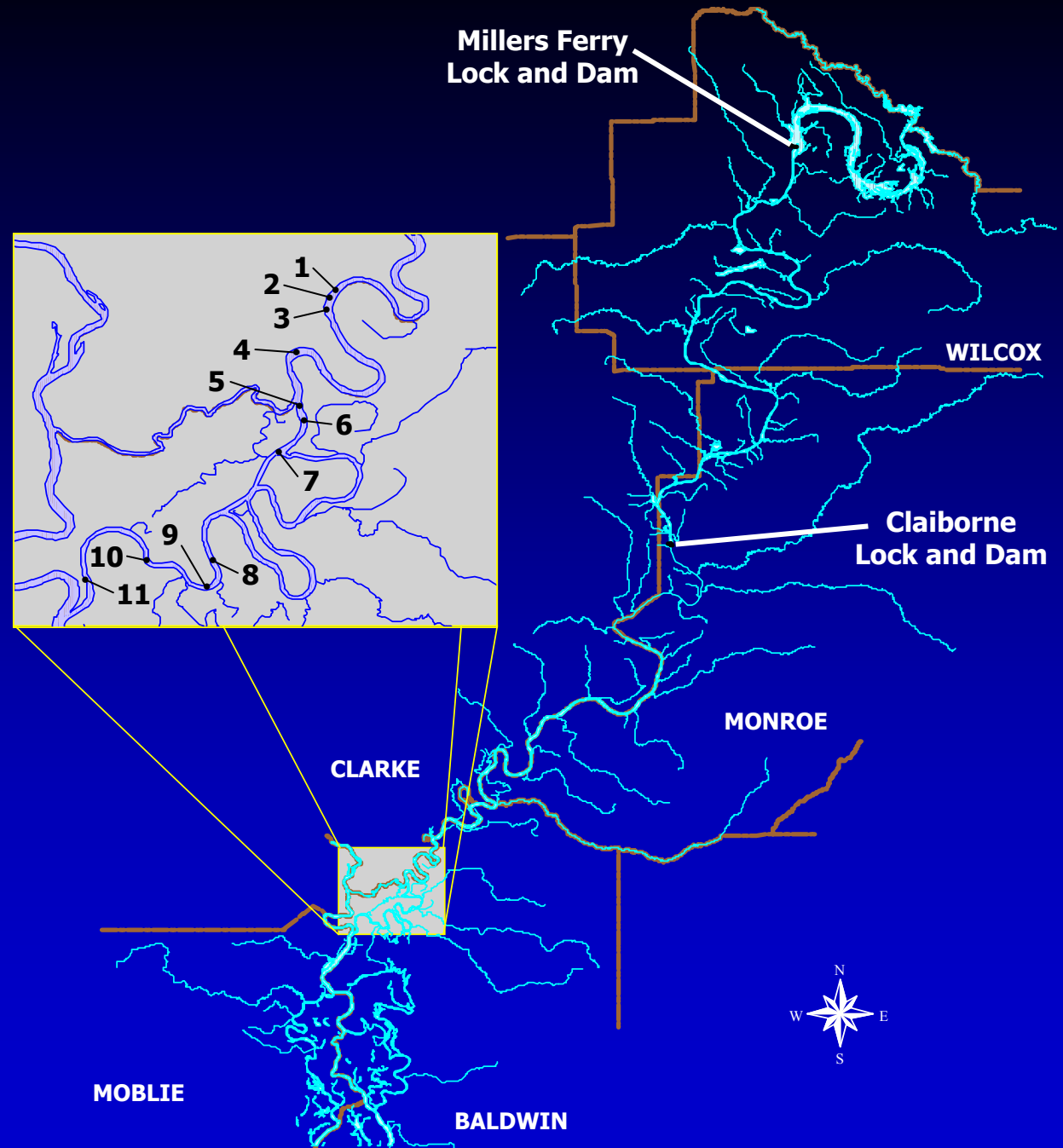
SBS summer habitats near Dixie Landing

1	267	(1997-98)
2	276	(1997-98)
3	3496	(2002)
4	345	(1999-00)
5	284	(1999-00)
6	3344	(1999-00)
7	292	(2000-02)
8	274	(2000)



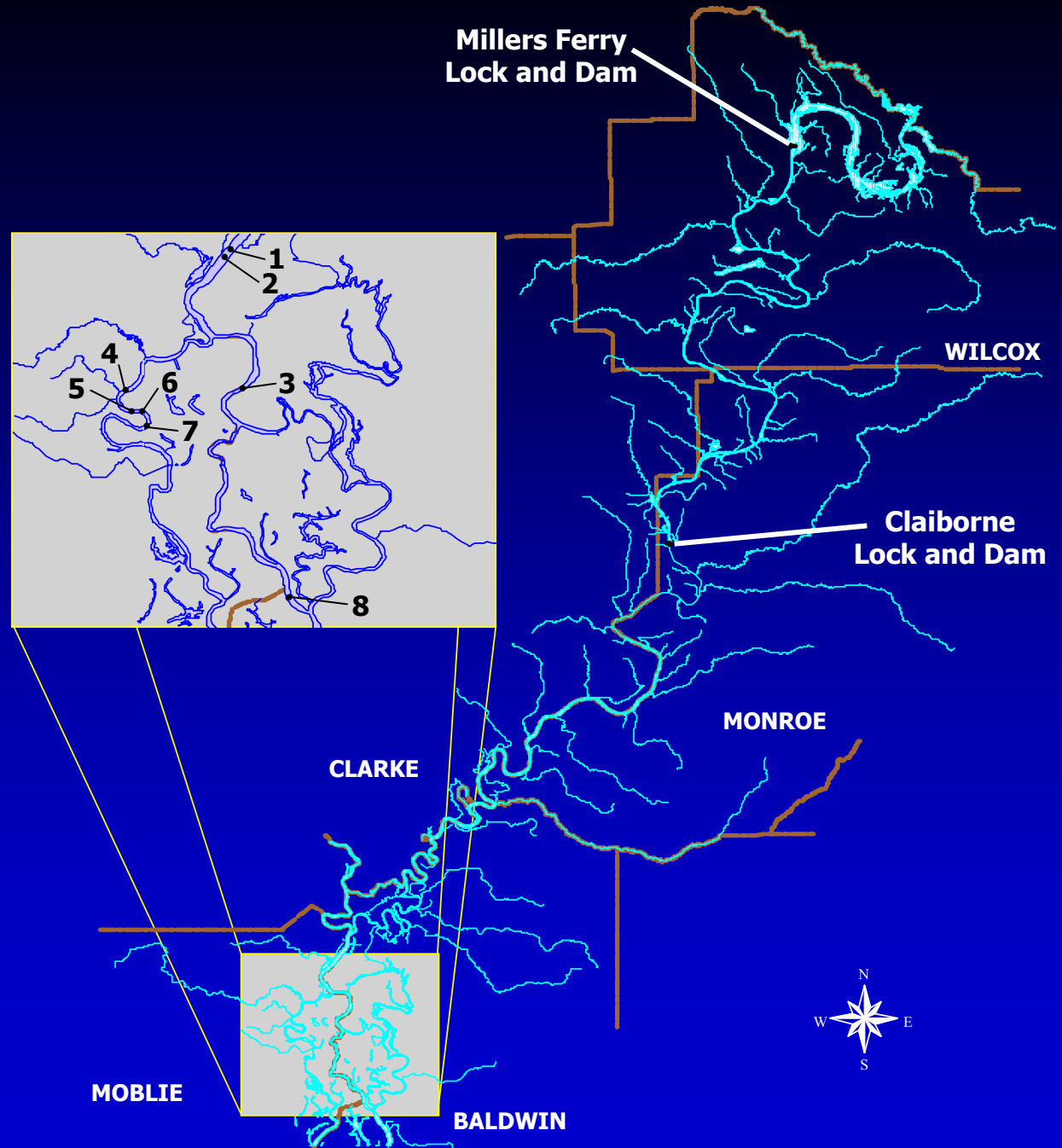
SBS summer habitats in the lower Alabama River

1	348	(1998-99)
2	3456	(2000)
3	2245	(2000)
4	3474	(2002)
5	555	(1997-98)
6	255	(2000)
7	285	(1999-00)
8	88	(2000)
9	276	(1999-00)
10	2326	(2000)
11	356	(1999-00)



SBS summer habitats in the Mobile Delta

1	244	(1996)
2	226	(2001-02)
3	243	(2001-02)
4	276	(1997-98)
5	267	(1997-98)
6	233	(1996)
7	456	(1998)
8	246	(1999)



Paddlefish Results

1. 17 fish paddlefish were tagged below Millers Ferry in 2002.
2. 13 fish were found within 50 miles of Millers Ferry.
3. Two fish moved downstream past Claiborne.
 - a) One fish ranged from ARM 63 to ARM 73.
 - b) The second fish was detected in the Mobile River-approximately 137 miles downstream of the Millers Ferry.

Paddlefish

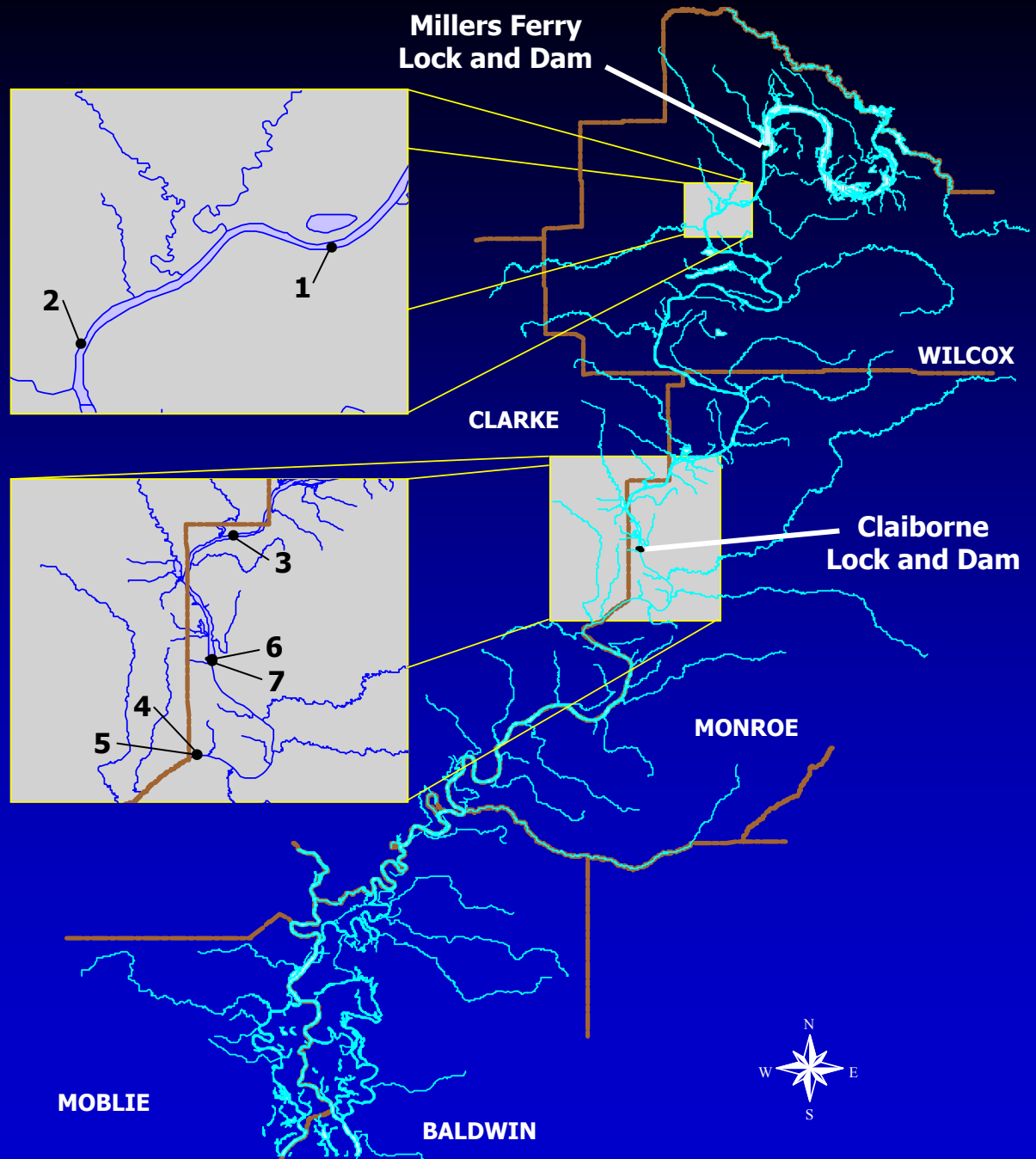
Tag Number : 3-4-6-7

Tag Date : 3/19/2002

Tag location : Millers Ferry

Detection Dates

- 1 3/26/2002
- 2 4/26/2002
- 3 5/08/2002
- 4 8/01/2002
- 5 8/08/2002
- 6 8/20/2002
- 7 9/18/2002



Paddlefish

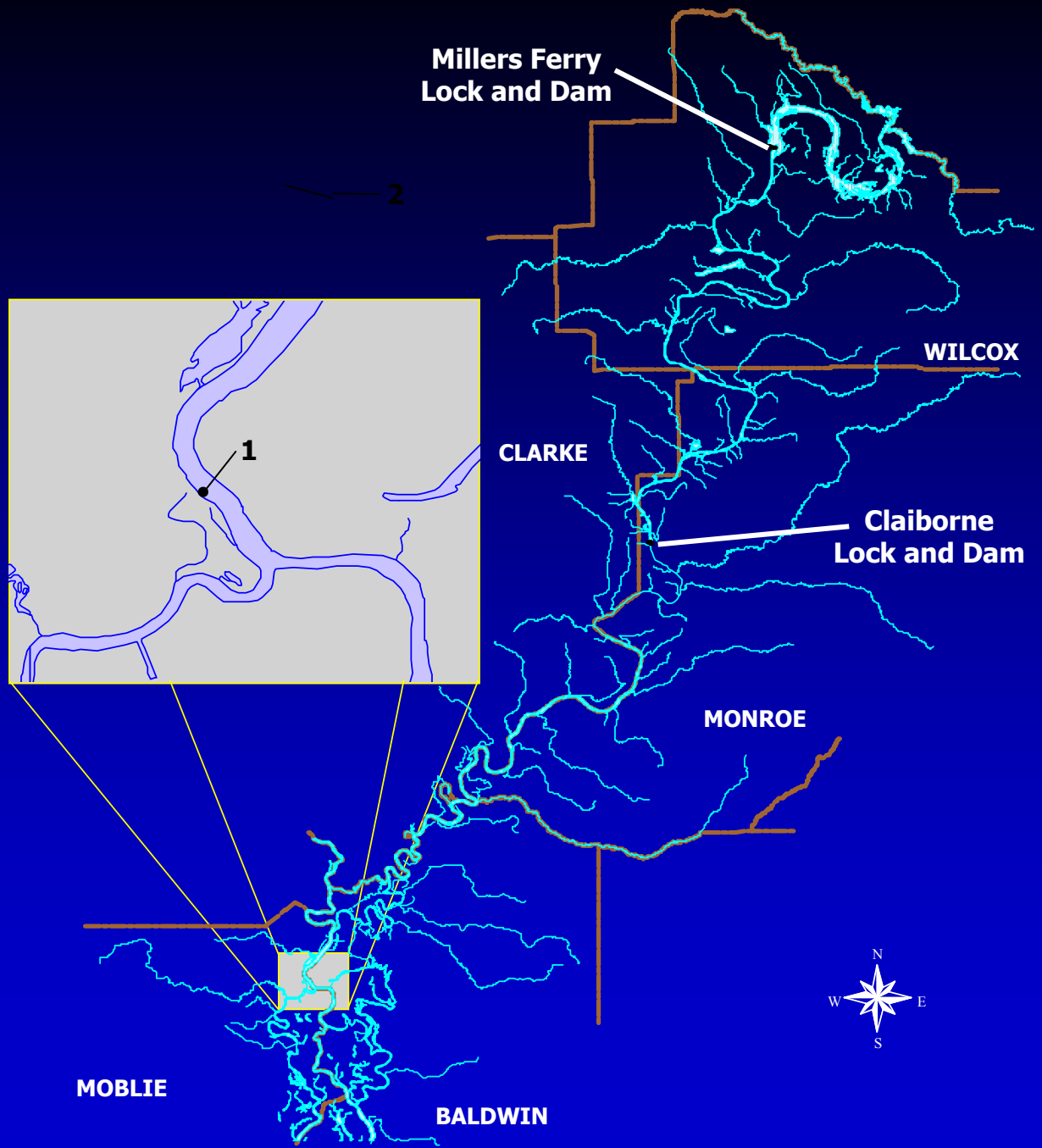
Tag Number : 3-3-5-9

Tag Date : 4/10/2002

Tag location : Millers Ferry

Detection Dates

1 8/28/2002



Conclusions

1. SBS, paddlefish, and other riverine fish species will move pass Claiborne LD provided the spillway is inundated by spring floods.
2. Fish cannot move past Millers Ferry unless the gated spillway is inundated.
3. As such, fish species inhabiting the Alabama River are effectively isolated into two distinct populations, one above Millers Ferry and one below.

Cooperating Agencies

ADCNR-Wildlife and Freshwater Fisheries Division

ADCNR-State Lands Division

Geological Survey of Alabama

U.S. Army Corps of Engineers

U.S. Fish and Wildlife Service



Flow Conditions & BS Catch Data, 1995-2002

<u>Year</u>	<u>Days Claiborne Inundated</u>				<u>D F</u>	<u>Catch</u>
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>		
2002	6	3	0	0	6	140
2001	0	0	29	8	4	31
2000	0	0	0	7	7	56
1999	2	8	4	0	7	260
1998	22	24	20	5	13	49
1997	7	10	15	1	8	149
1996	5	11	24	6	9	117
1995	0	11	8	0	9	136

