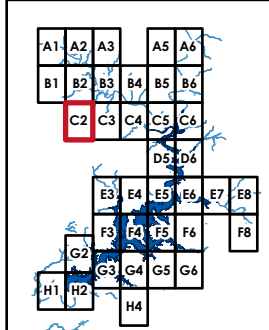
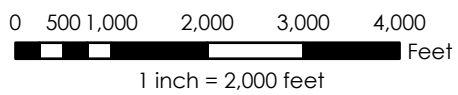




**WETLAND AND RIPARIAN INUNDATION CHANGES**



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

**ROAD CLASS**

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM**  
GRAND RIVER DAM AUTHORITY

**MAP: C2**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022

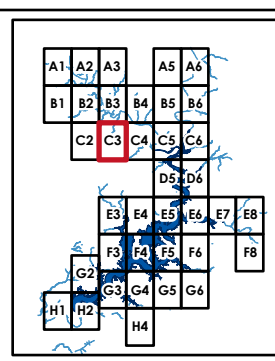




Image credits: https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\_CONUS\_PRIME/ImageServer, 2019

### WETLAND AND RIPARIAN INUNDATION CHANGES

**NORTH**



<b>INUNDATION</b> Maximum Inundation Wetland and Riparian Inundation Areas, Anticipated Operations Wetland and Riparian Inundation Areas, Baseline Operations		<b>ROAD CLASS</b> Interstate State Highway US Highway Major Collector Local Road Railroad		<b>Legend</b> Stream Project Boundary (2014) Wildlife Management Areas National Wetland Inventory Wetland USFWS Riparian Habitat	
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**MAP AND LEGEND NOTES**

- Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
- Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
- See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

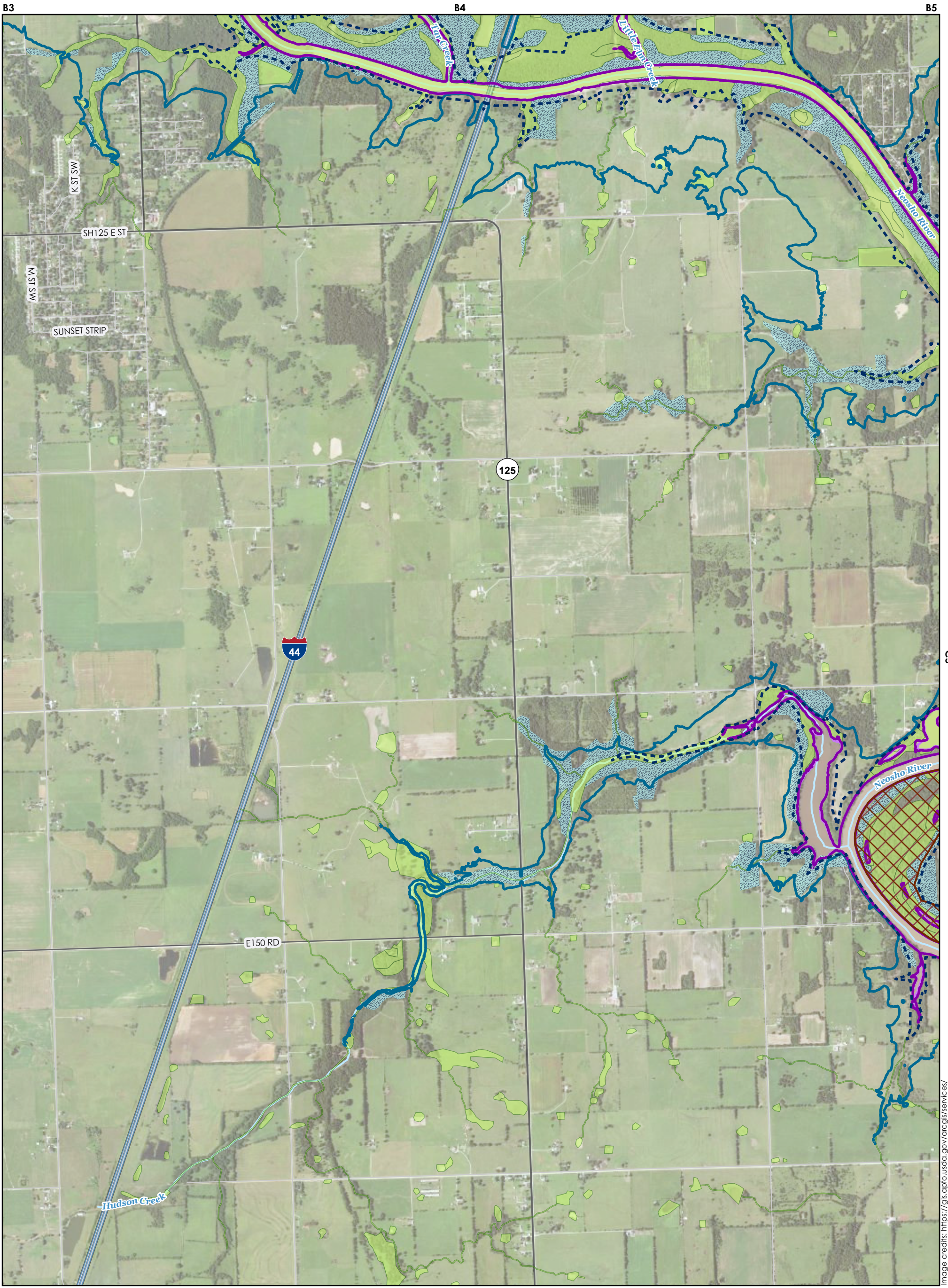
**PENSACOLA DAM**  
 GRAND RIVER DAM AUTHORITY

**MAP: C3**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
 September 2022

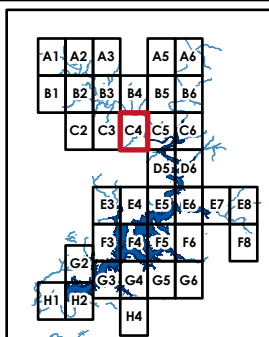




**WETLAND AND RIPARIAN INUNDATION CHANGES**



0 500 1,000 2,000 3,000 4,000  
 Feet  
 1 inch = 2,000 feet



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

- ROAD CLASS**
- Interstate
  - State Highway
  - US Highway
  - Major Collector
  - Local Road
  - Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

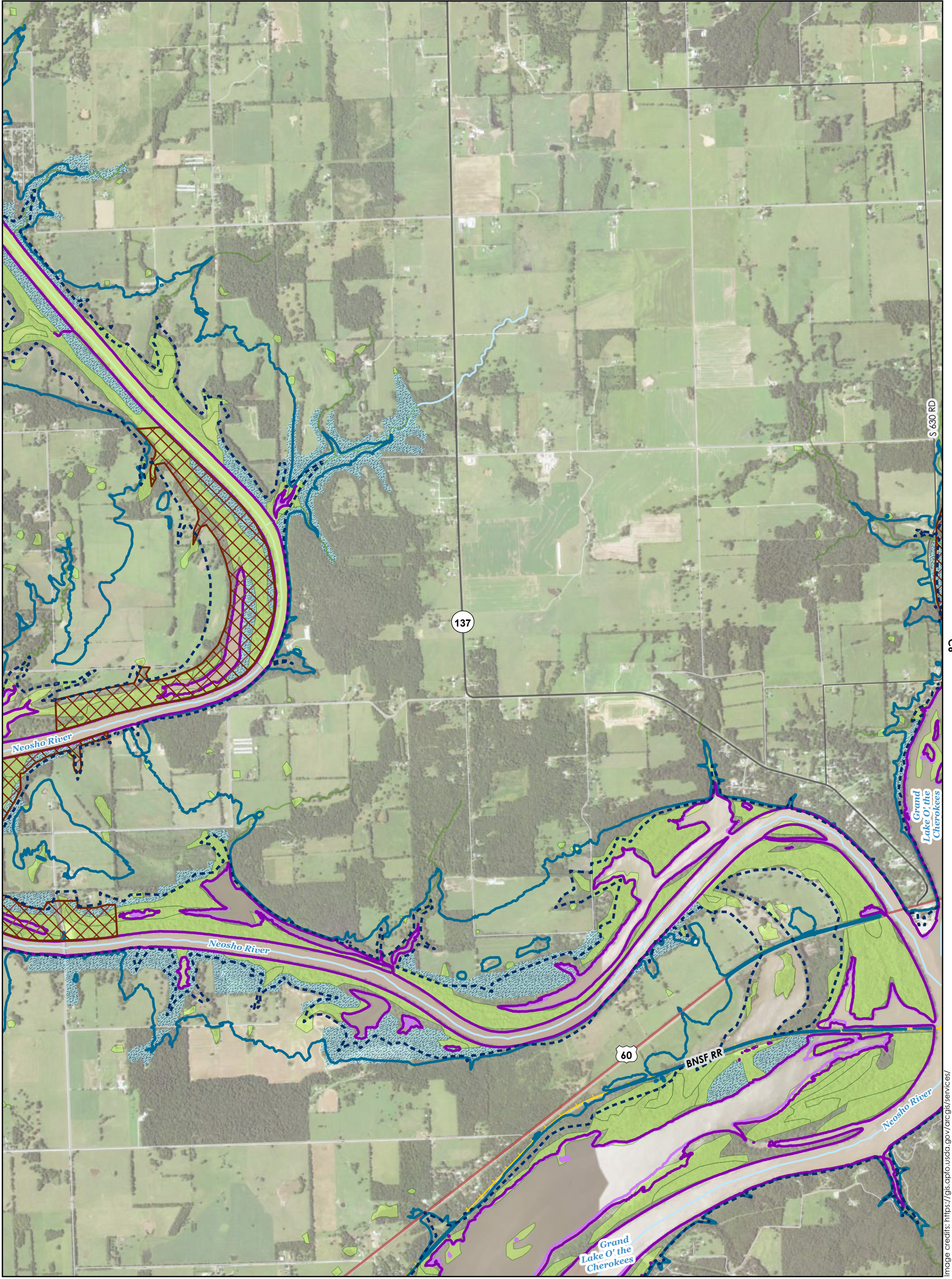
**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

**MAP: C4**

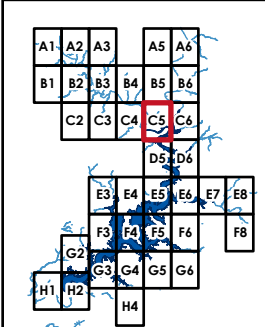
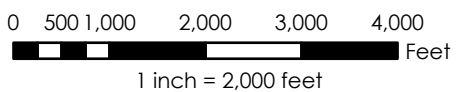
CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
 September 2022





**WETLAND AND RIPARIAN INUNDATION CHANGES**



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

- ROAD CLASS**
- Interstate
  - State Highway
  - US Highway
  - Major Collector
  - Local Road
  - Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

**MAP: C5**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022



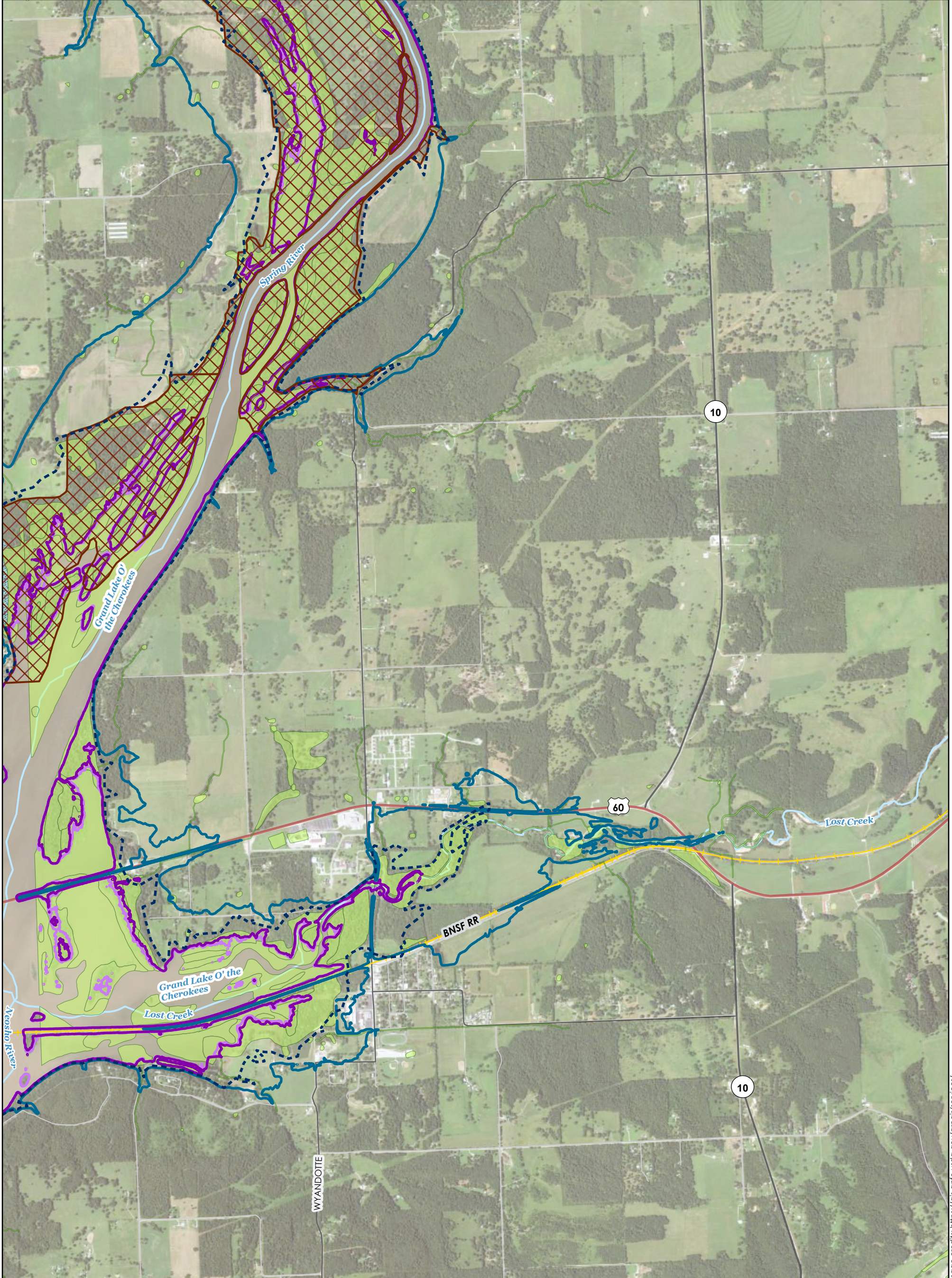


Image credits: [https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019

### WETLAND AND RIPARIAN INUNDATION CHANGES

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet

<p><b>INUNDATION</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid blue; margin-right: 5px;"></span> Maximum Inundation</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid purple; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Anticipated Operations</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid pink; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Baseline Operations</li> </ul>	<p><b>ROAD CLASS</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Interstate</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid grey; margin-right: 5px;"></span> State Highway</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid red; margin-right: 5px;"></span> US Highway</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid black; margin-right: 5px;"></span> Major Collector</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid grey; margin-right: 5px;"></span> Local Road</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed yellow; margin-right: 5px;"></span> Railroad</li> </ul>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid blue; margin-right: 5px;"></span> Stream</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed blue; margin-right: 5px;"></span> Project Boundary (2014)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid brown; margin-right: 5px;"></span> Wildlife Management Areas</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; margin-right: 5px;"></span> National Wetland Inventory Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px dashed blue; margin-right: 5px;"></span> USFWS Riparian Habitat</li> </ul>
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**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

## PENSACOLA DAM

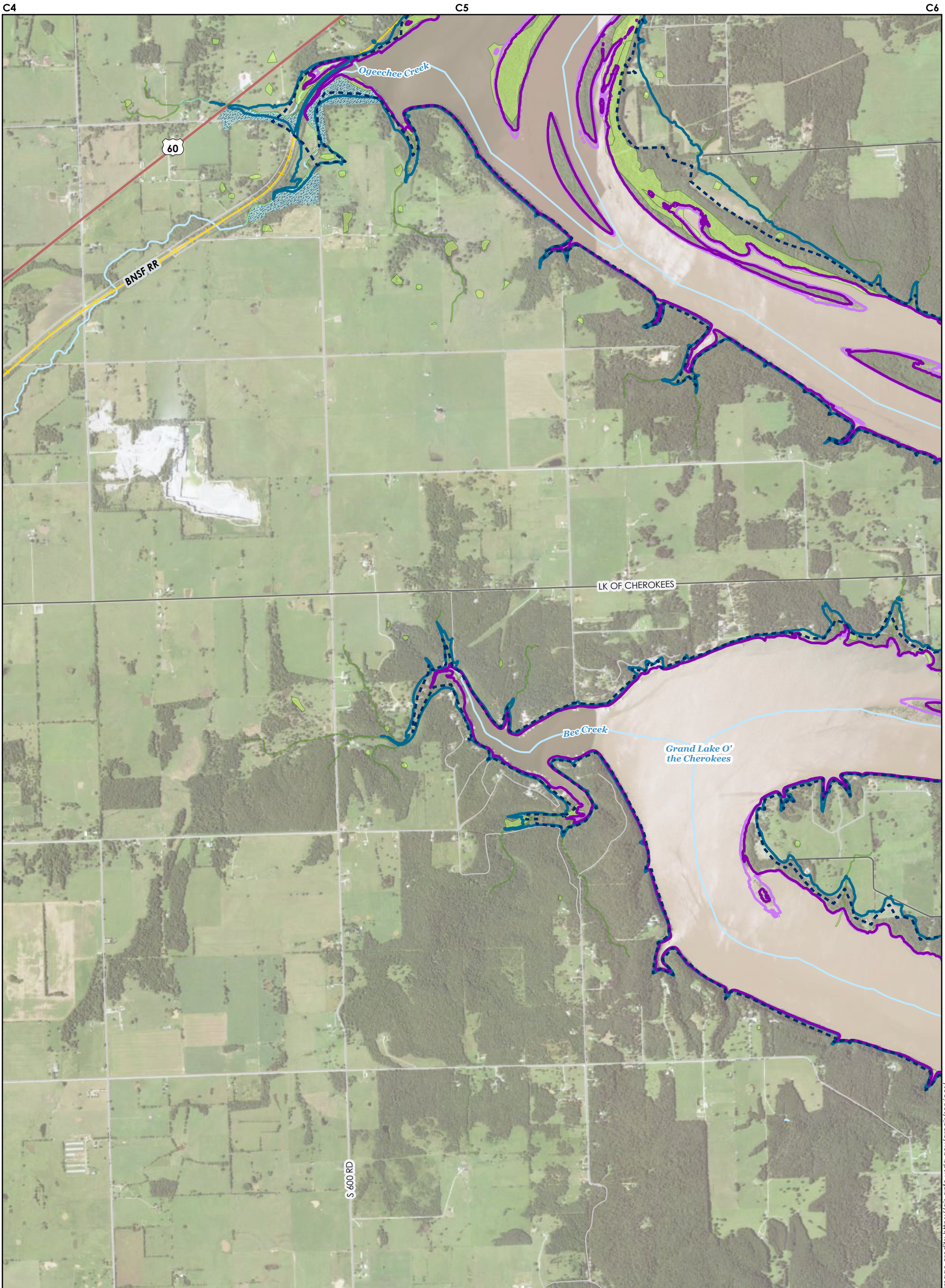
GRAND RIVER DAM AUTHORITY

### MAP: C6

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022





### WETLAND AND RIPARIAN INUNDATION CHANGES

**NORTH**

**Legend**

<p><b>INUNDATION</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid blue; margin-right: 5px;"></span> Maximum Inundation</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid purple; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Anticipated Operations</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid pink; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Baseline Operations</li> </ul>	<p><b>ROAD CLASS</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Interstate</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid grey; margin-right: 5px;"></span> State Highway</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid red; margin-right: 5px;"></span> US Highway</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid black; margin-right: 5px;"></span> Major Collector</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid grey; margin-right: 5px;"></span> Local Road</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed yellow; margin-right: 5px;"></span> Railroad</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid lightblue; margin-right: 5px;"></span> Stream</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed blue; margin-right: 5px;"></span> Project Boundary (2014)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed brown; margin-right: 5px;"></span> Wildlife Management Areas</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; margin-right: 5px;"></span> National Wetland Inventory Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; margin-right: 5px;"></span> USFWS Riparian Habitat</li> </ul>
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**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM**  
**GRAND RIVER DAM AUTHORITY**

**MAP: D5**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
 September 2022

Image credits: https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\_CONUS\_PRIME/ImageServer, 2019



C5

C6

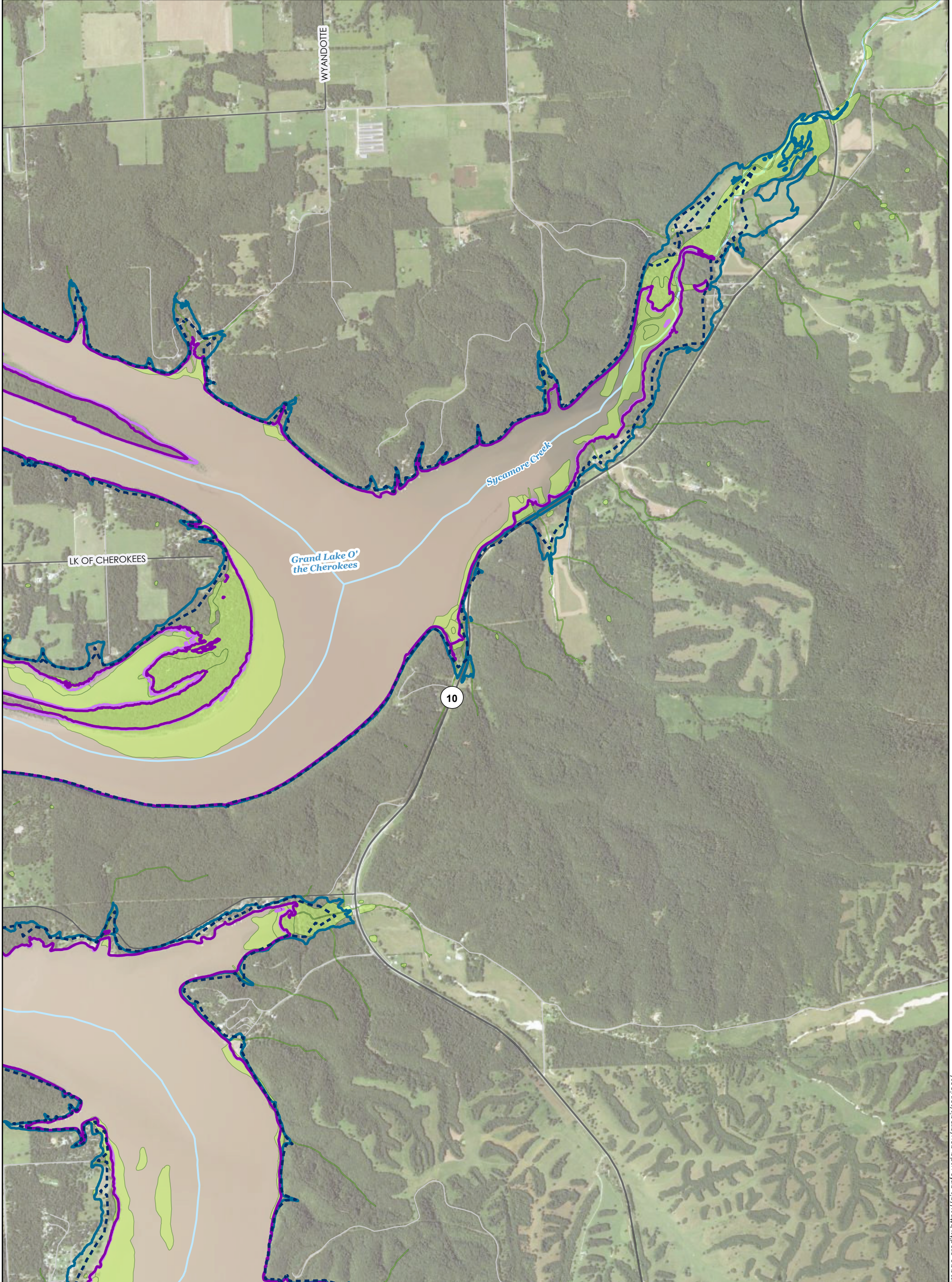


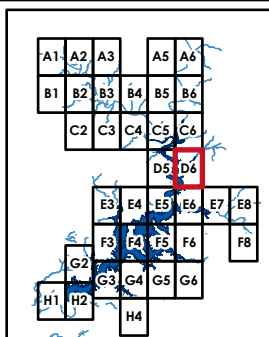
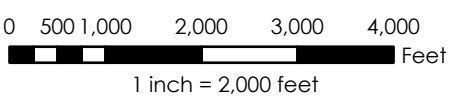
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E5

E6

E7

### WETLAND AND RIPARIAN INUNDATION CHANGES



#### INUNDATION

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

#### Legend

- #### ROAD CLASS
- Interstate
  - State Highway
  - US Highway
  - Major Collector
  - Local Road
  - Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

#### MAP AND LEGEND NOTES

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

## PENSACOLA DAM GRAND RIVER DAM AUTHORITY

### MAP: D6

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022



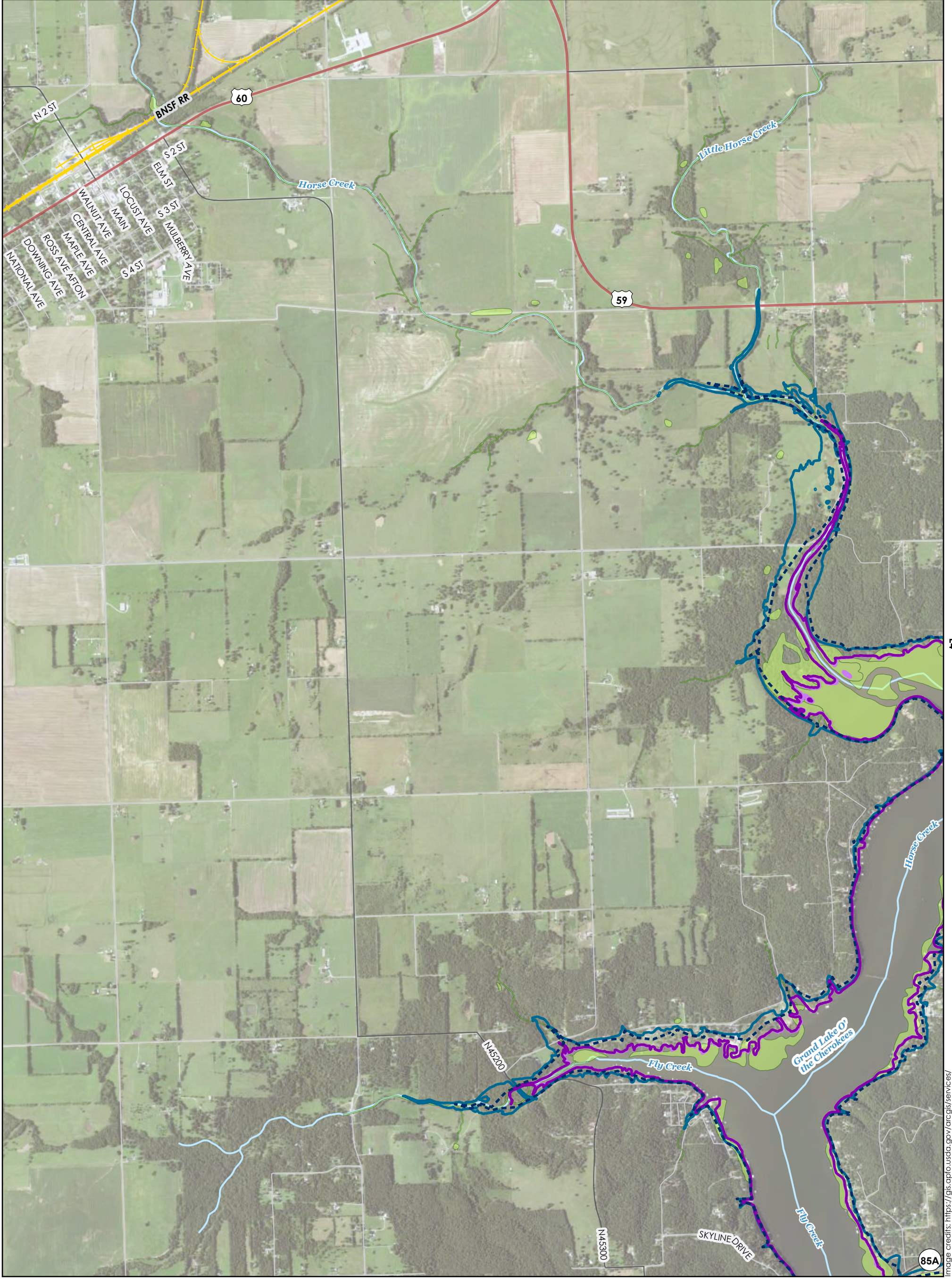
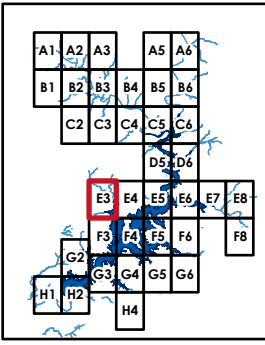
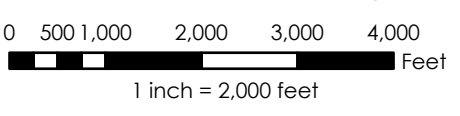


Image credits: [https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019

### WETLAND AND RIPARIAN INUNDATION CHANGES



#### INUNDATION

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

#### ROAD CLASS

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

#### MAP AND LEGEND NOTES

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

#### Legend

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

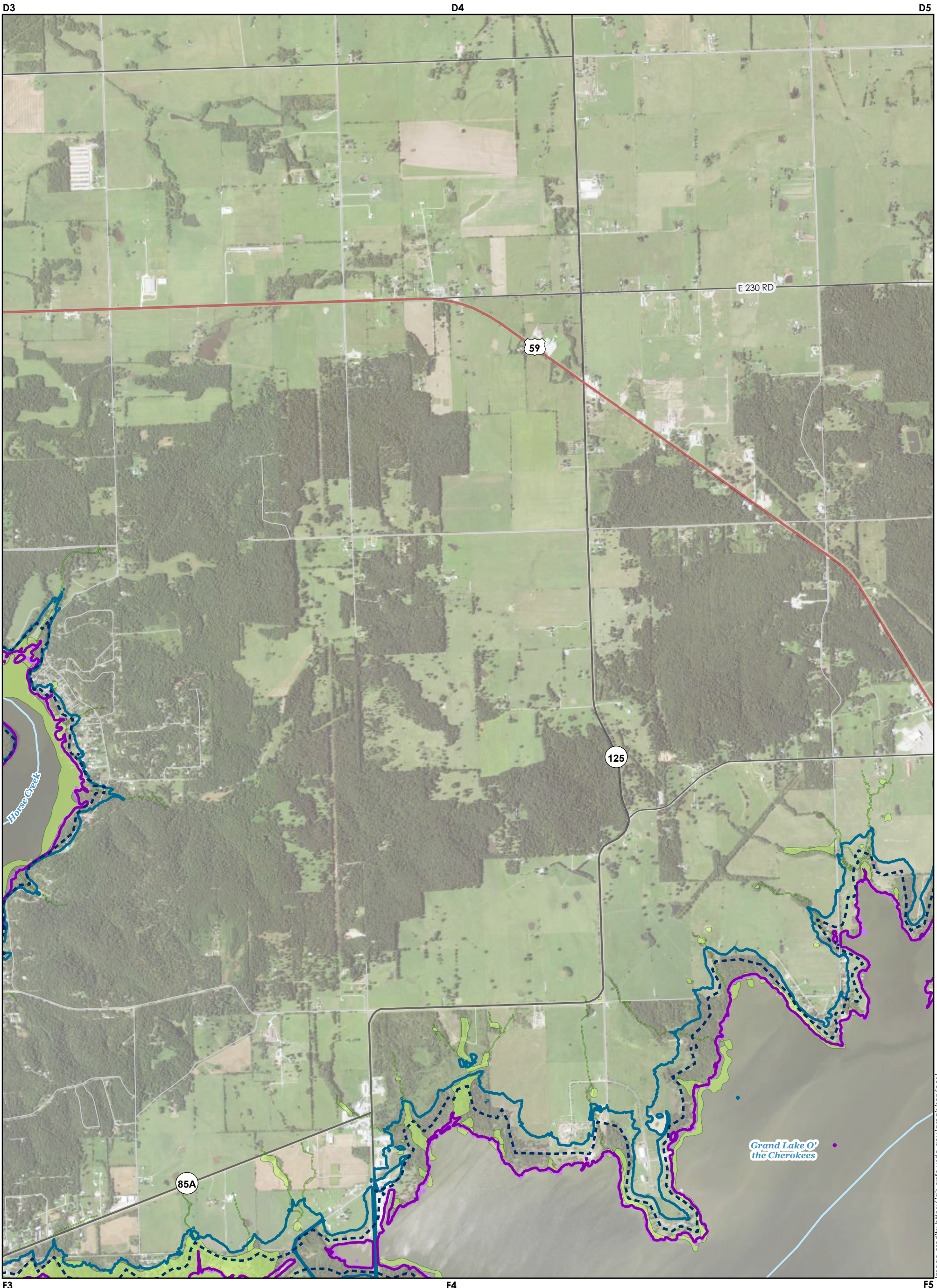
### PENSACOLA DAM GRAND RIVER DAM AUTHORITY

### MAP: E3

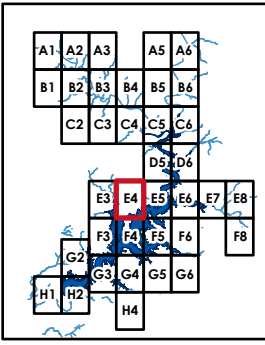
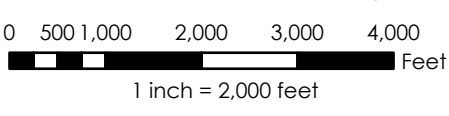
CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022





**WETLAND AND RIPARIAN INUNDATION CHANGES**



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

**ROAD CLASS**

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

**Stream**

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

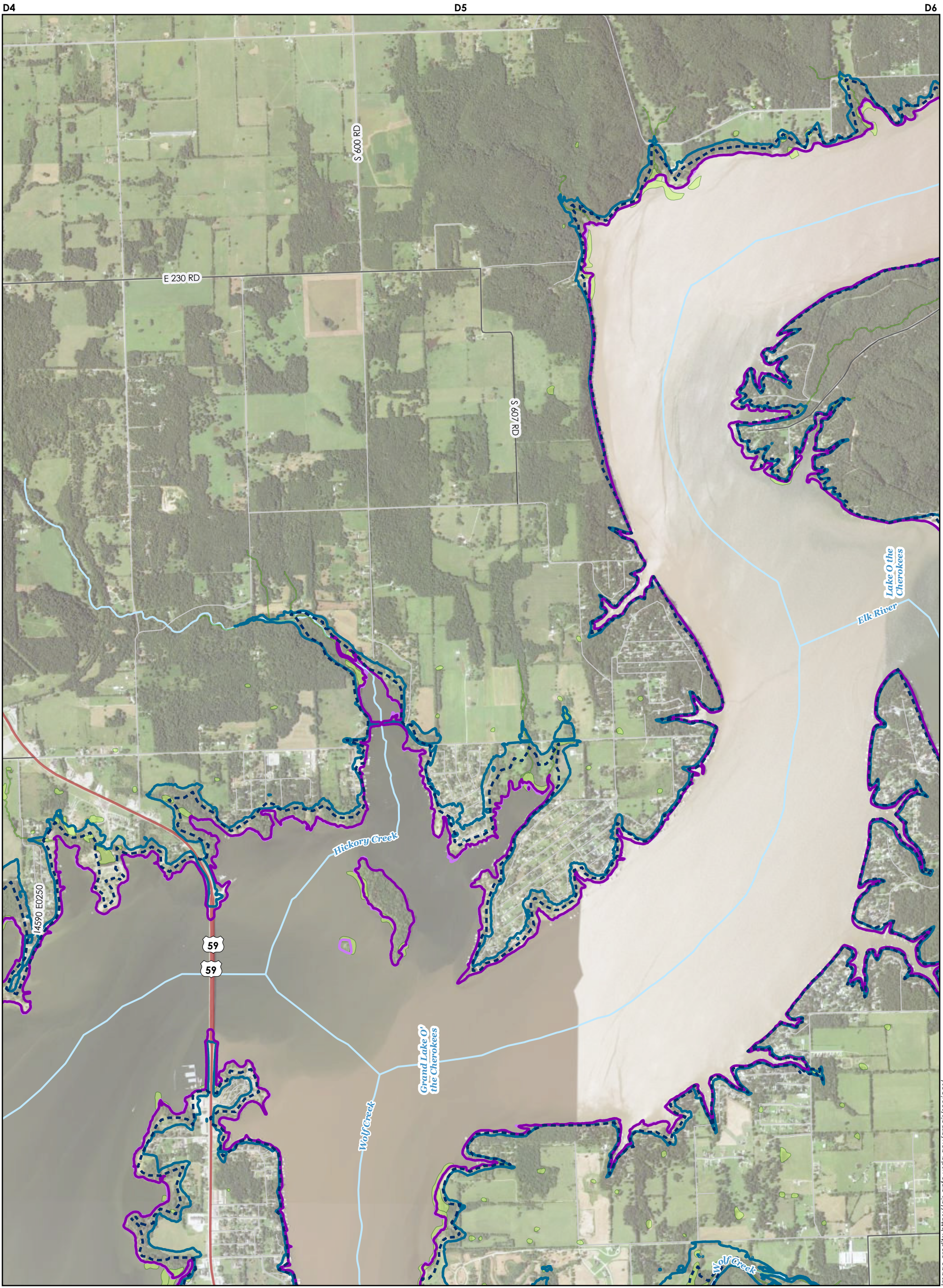
**MAP: E4**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

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September 2022

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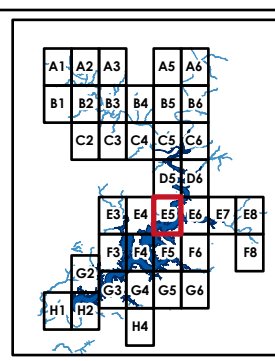


**WETLAND AND RIPARIAN INUNDATION CHANGES**

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet



**Legend**

<b>INUNDATION</b>	<b>ROAD CLASS</b>	Stream
Maximum Inundation	Interstate	Project Boundary (2014)
Wetland and Riparian Inundation Areas, Anticipated Operations	State Highway	Wildlife Management Areas
Wetland and Riparian Inundation Areas, Baseline Operations	US Highway	National Wetland Inventory Wetland
	Major Collector	USFWS Riparian Habitat
	Local Road	
	Railroad	

**MAP AND LEGEND NOTES**

- Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
- Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
- See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

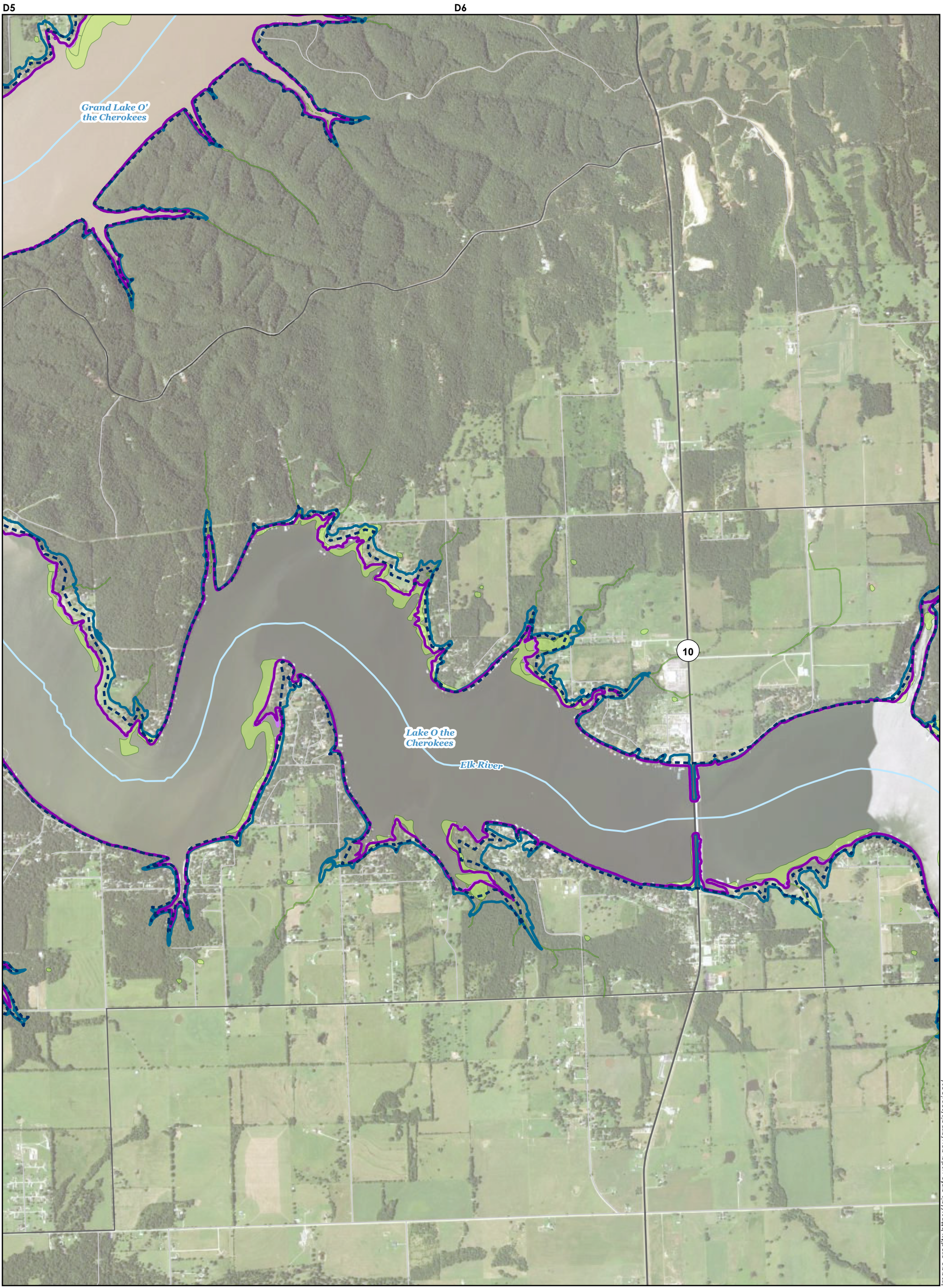
**MAP: E5**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022

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### WETLAND AND RIPARIAN INUNDATION CHANGES

NORTH

1 inch = 2,000 feet

**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**ROAD CLASS**

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

MAP AND LEGEND NOTES

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

Legend

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

PENSACOLA DAM

GRAND RIVER DAM AUTHORITY

MAP: E6

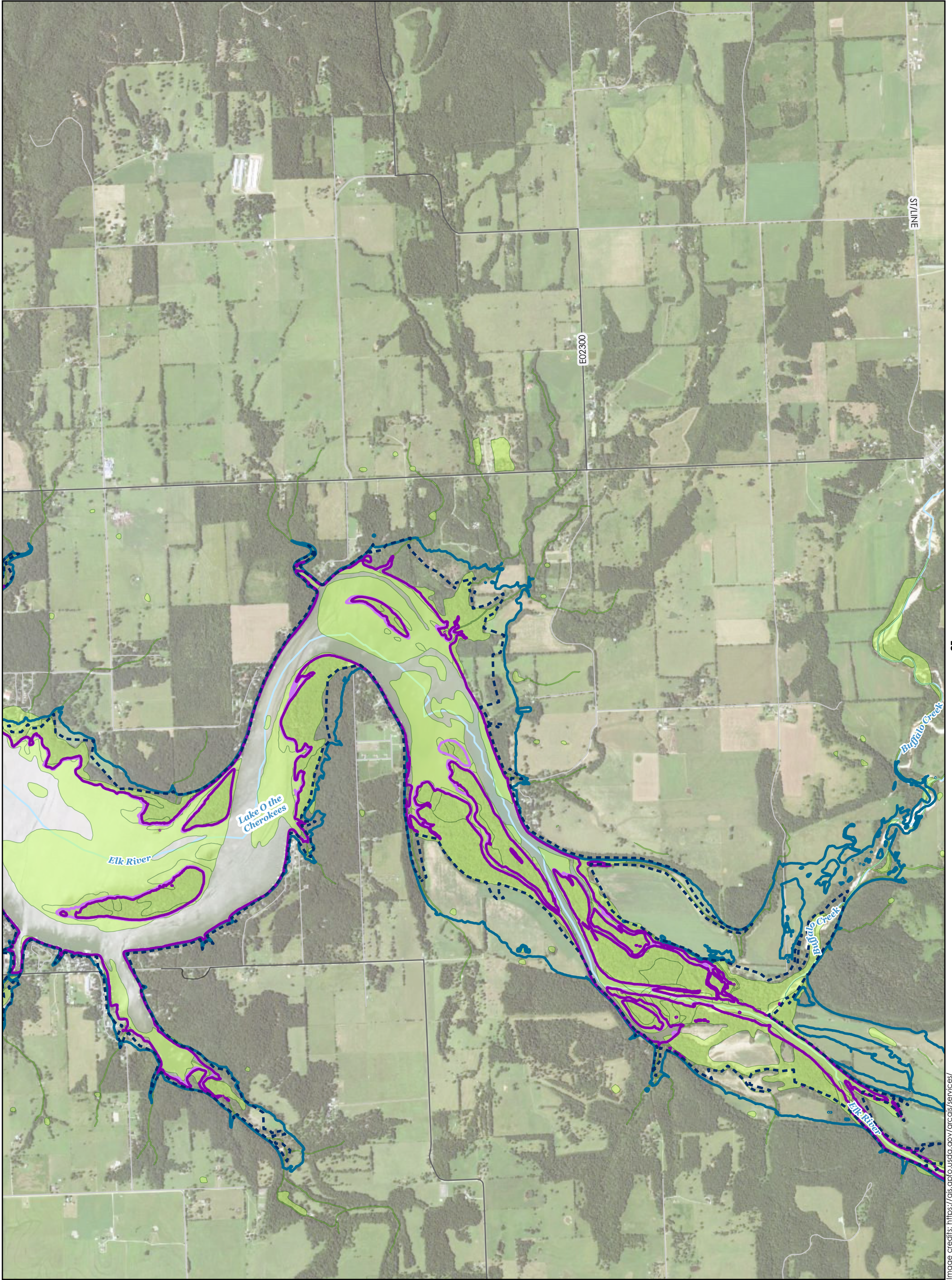
CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

FERC No. 1494

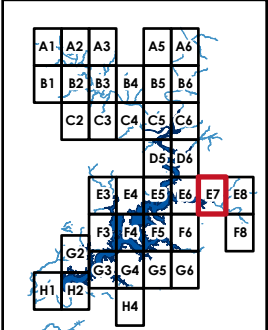
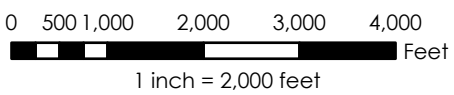
September 2022

Image credits: [https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019





**WETLAND AND RIPARIAN INUNDATION CHANGES**



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

**ROAD CLASS**

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

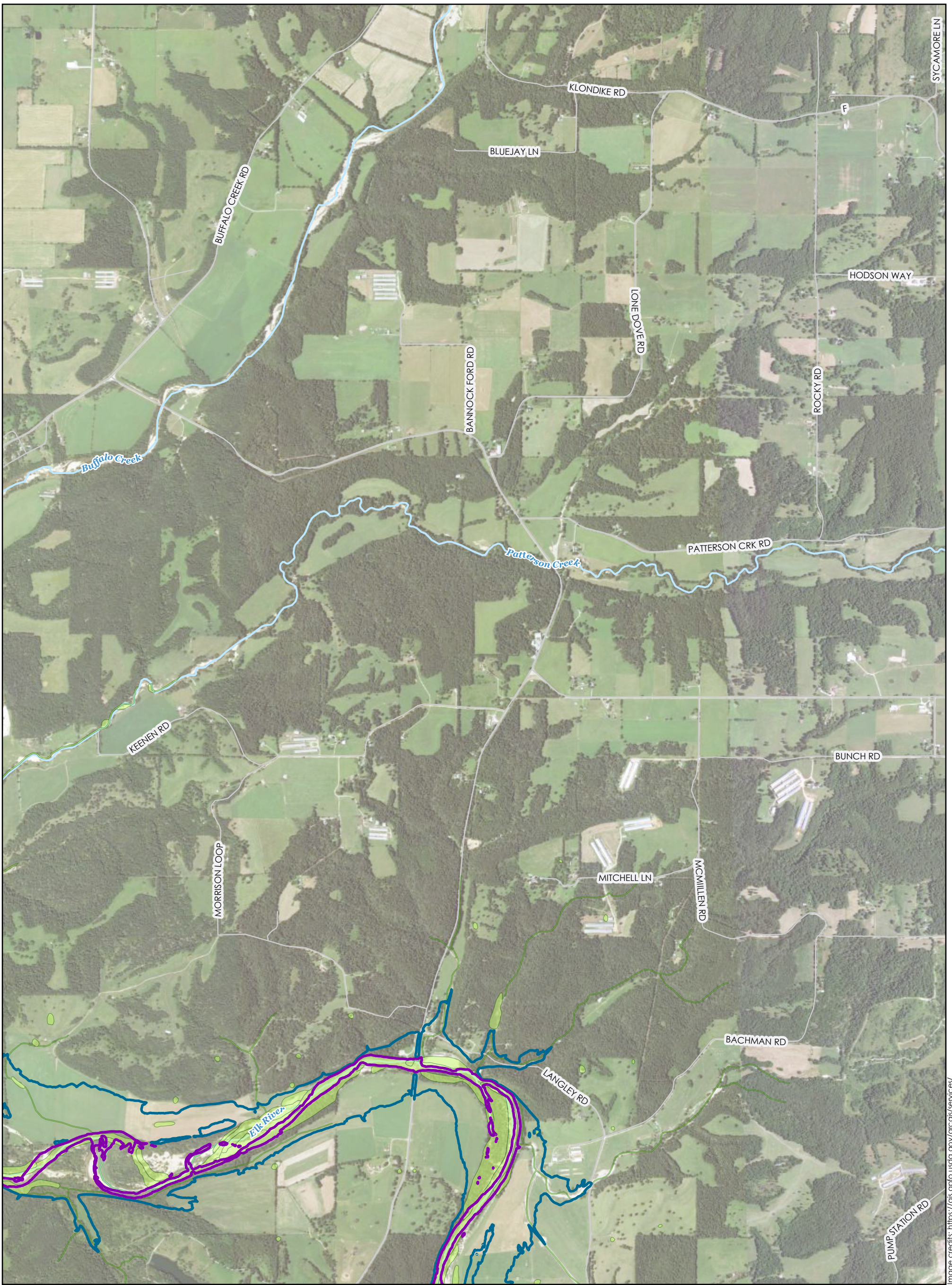
**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

**MAP: E7**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022



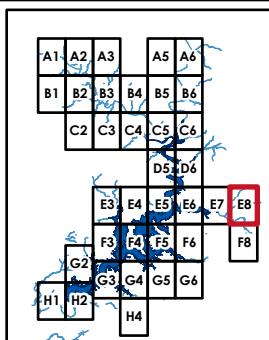
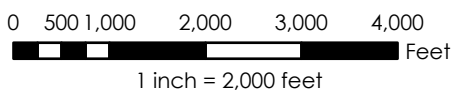


E7

F7

F8

**WETLAND AND RIPARIAN INUNDATION CHANGES**



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

**ROAD CLASS**

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

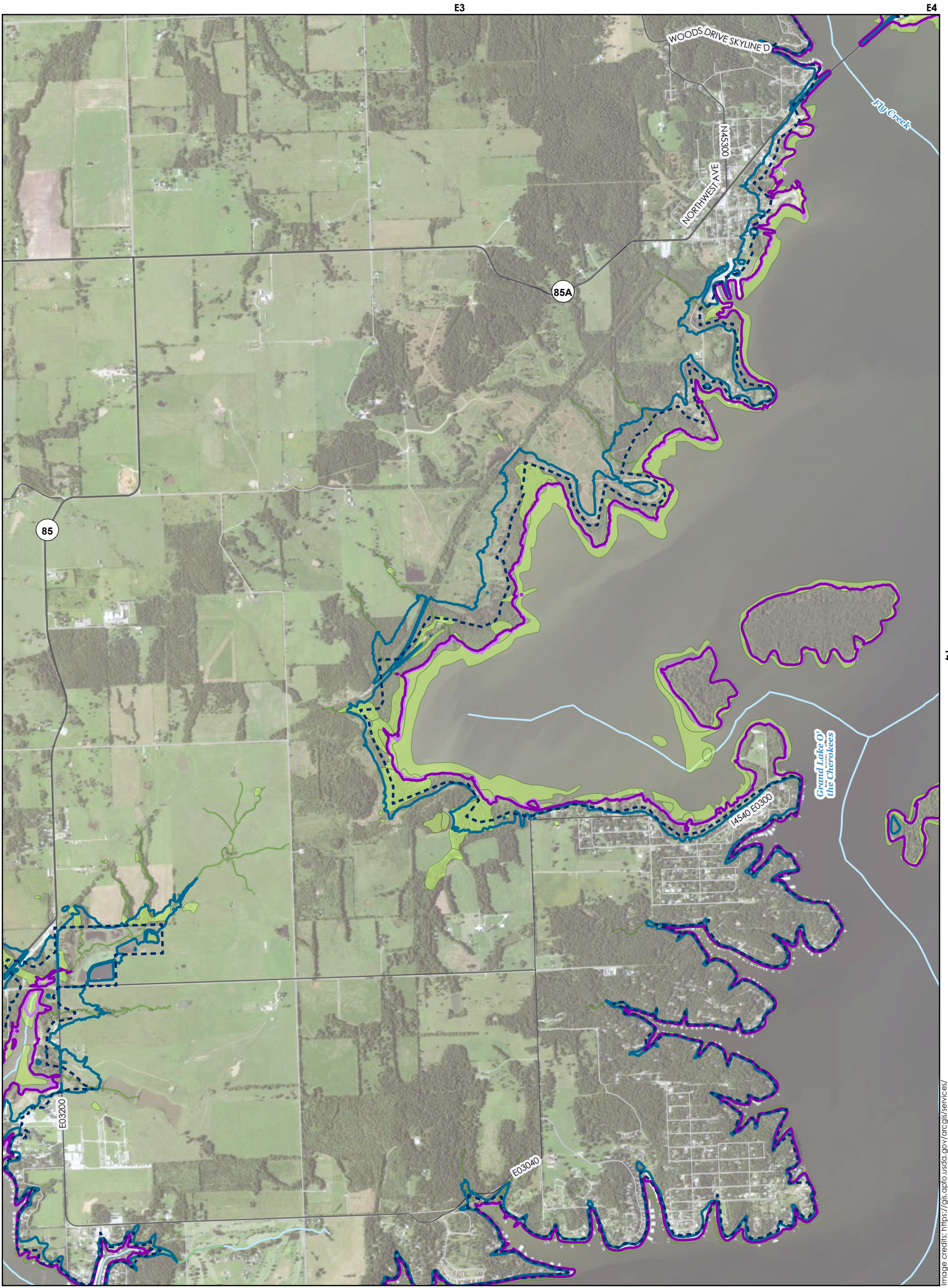
**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

**MAP: E8**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022



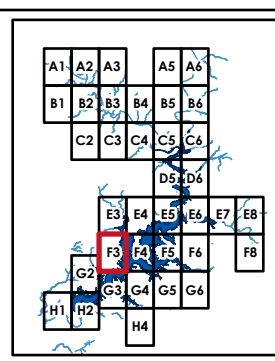


**WETLAND AND RIPARIAN INUNDATION CHANGES**

**NORTH**

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet



**Legend**

<b>INUNDATION</b>	<b>ROAD CLASS</b>	Stream
Maximum Inundation	Interstate	Project Boundary (2014)
Wetland and Riparian Inundation Areas, Anticipated Operations	State Highway	Wildlife Management Areas
Wetland and Riparian Inundation Areas, Baseline Operations	US Highway	National Wetland Inventory Wetland
	Major Collector	USFWS Riparian Habitat
	Local Road	
	Railroad	

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM**  
**GRAND RIVER DAM AUTHORITY**

**MAP: F3**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
 September 2022

Image credits: [https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019



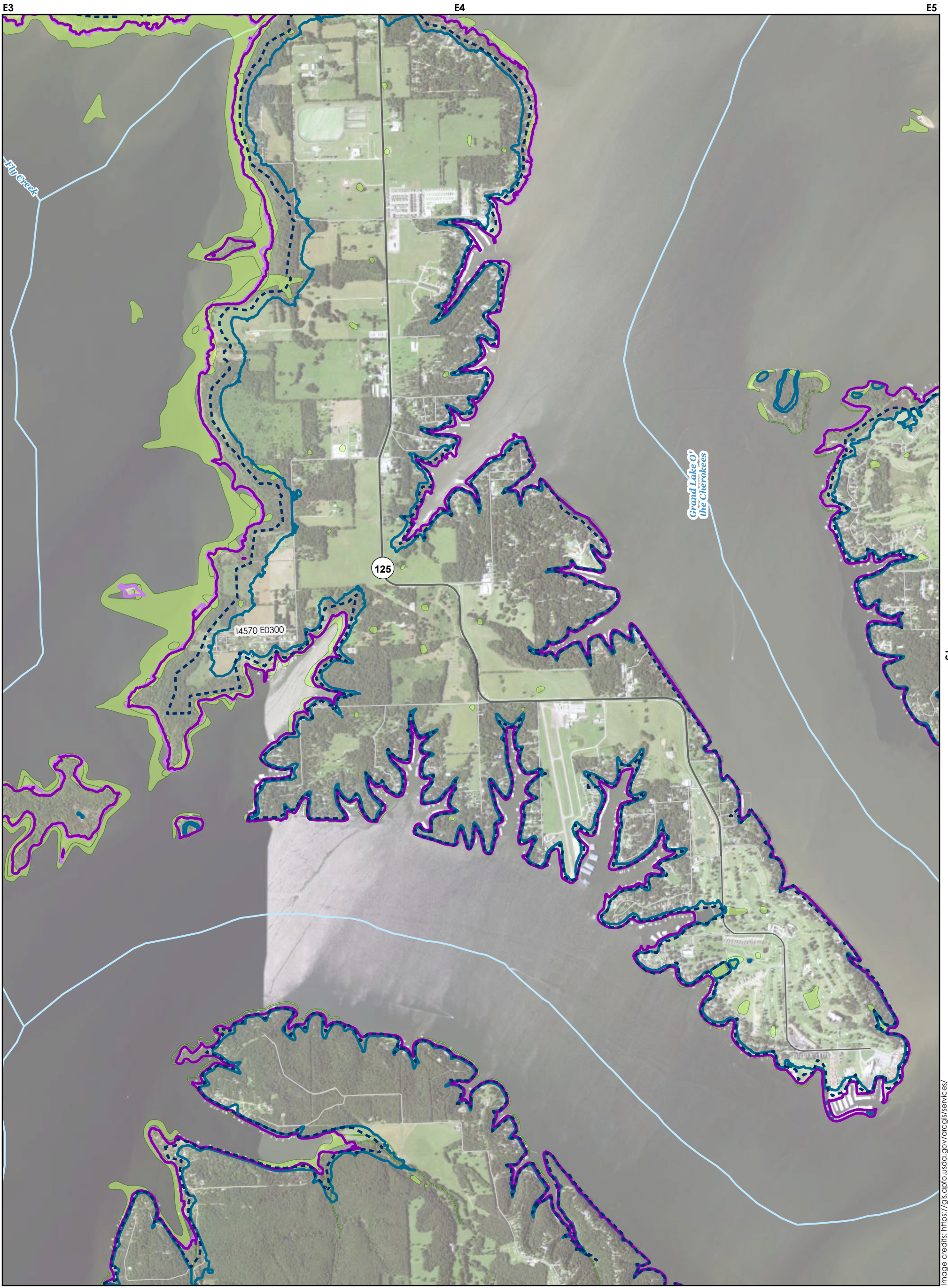


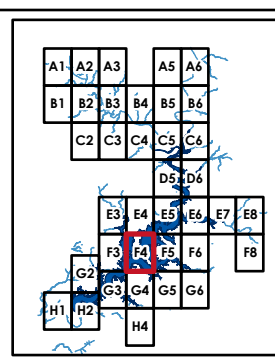
Image credits: [https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019

**WETLAND AND RIPARIAN INUNDATION CHANGES**

**NORTH**

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet



**Legend**

<b>INUNDATION</b>	<b>ROAD CLASS</b>	<b>Stream</b>
Maximum Inundation	Interstate	Project Boundary (2014)
Wetland and Riparian Inundation Areas, Anticipated Operations	State Highway	Wildlife Management Areas
Wetland and Riparian Inundation Areas, Baseline Operations	US Highway	National Wetland Inventory Wetland
	Major Collector	USFWS Riparian Habitat
	Local Road	
	Railroad	

**MAP AND LEGEND NOTES**

- Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
- Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
- See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM**  
GRAND RIVER DAM AUTHORITY

**MAP: F4**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022



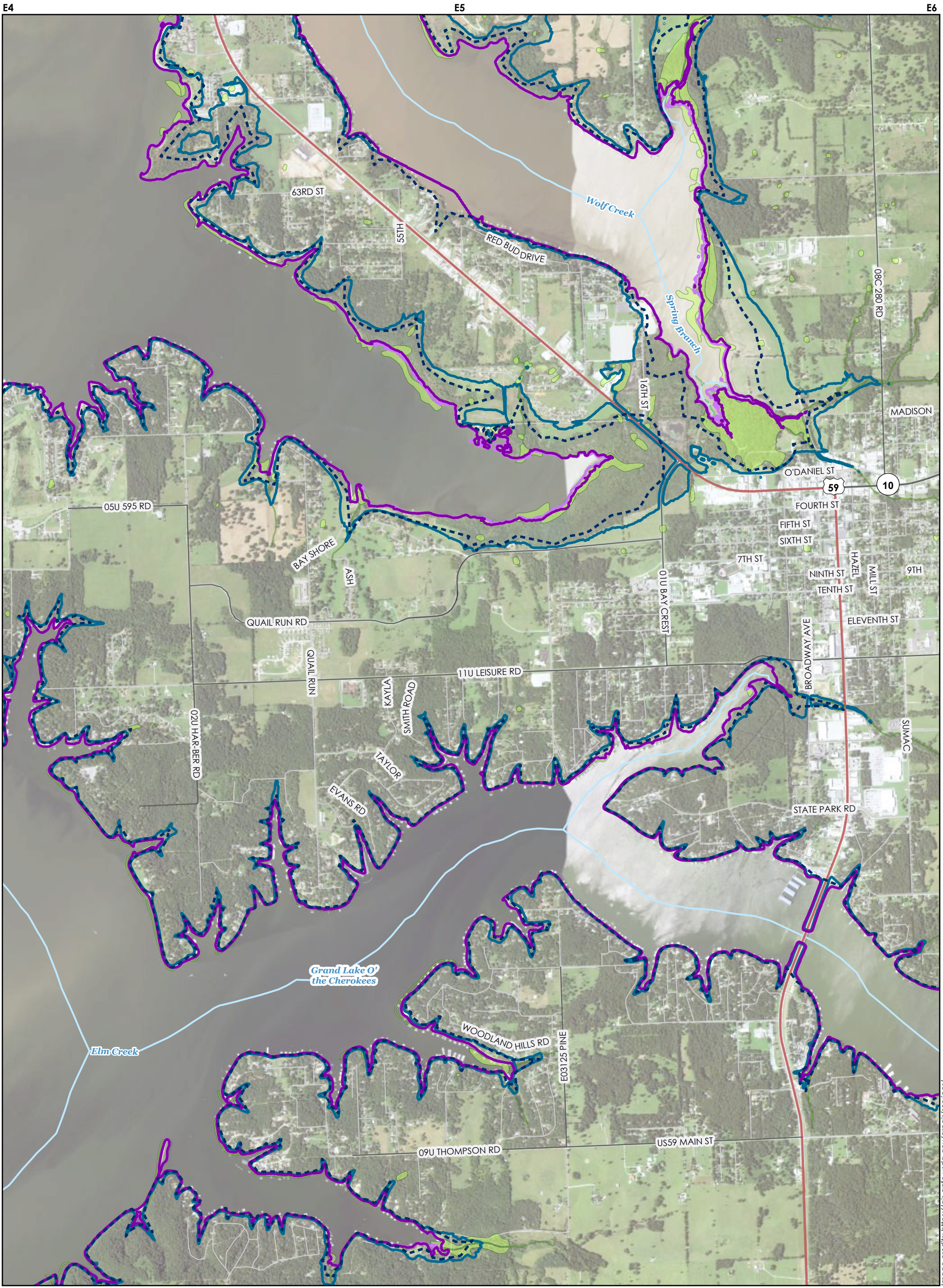
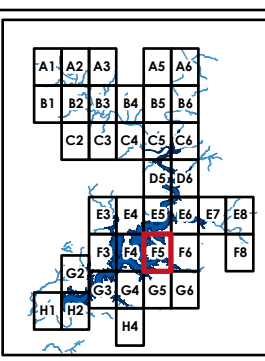


Image credits: [https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019

### WETLAND AND RIPARIAN INUNDATION CHANGES

**NORTH**

0 500 1,000 2,000 3,000 4,000 Feet  
1 inch = 2,000 feet



### Legend

<b>INUNDATION</b>	<b>ROAD CLASS</b>	<b>Stream</b>
Maximum Inundation	Interstate	Project Boundary (2014)
Wetland and Riparian Inundation Areas, Anticipated Operations	State Highway	Wildlife Management Areas
Wetland and Riparian Inundation Areas, Baseline Operations	US Highway	National Wetland Inventory Wetland
	Major Collector	USFWS Riparian Habitat
	Local Road	
	Railroad	

**MAP AND LEGEND NOTES**

- Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
- Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
- See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

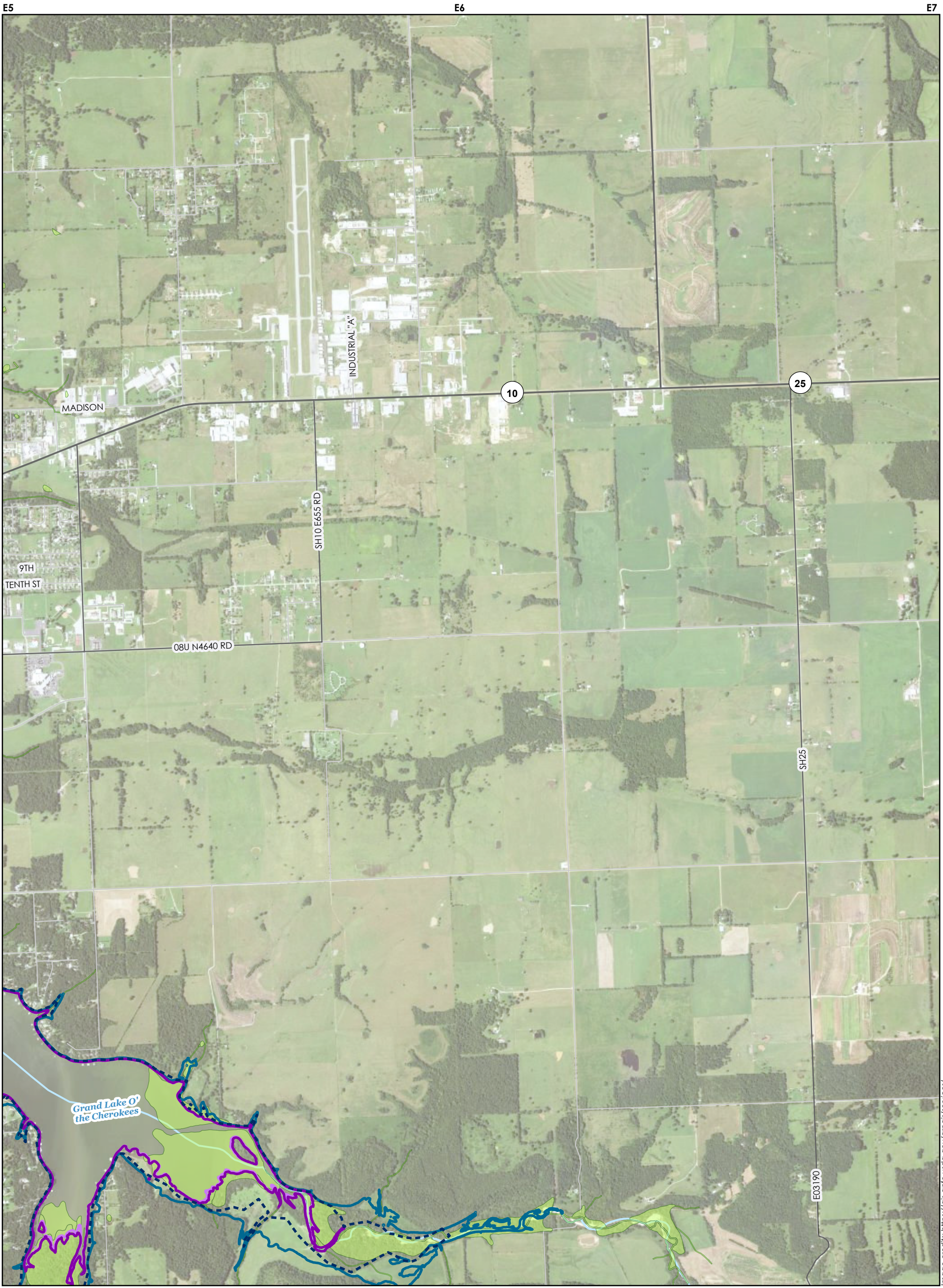
**PENSACOLA DAM**  
GRAND RIVER DAM AUTHORITY

**MAP: F5**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022





### WETLAND AND RIPARIAN INUNDATION CHANGES

**NORTH**

**Legend**

<p><b>INUNDATION</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid blue; margin-right: 5px;"></span> Maximum Inundation</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid purple; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Anticipated Operations</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid pink; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Baseline Operations</li> </ul>	<p><b>ROAD CLASS</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Interstate</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid gray; margin-right: 5px;"></span> State Highway</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid red; margin-right: 5px;"></span> US Highway</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid black; margin-right: 5px;"></span> Major Collector</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid gray; margin-right: 5px;"></span> Local Road</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed yellow; margin-right: 5px;"></span> Railroad</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Stream</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed blue; margin-right: 5px;"></span> Project Boundary (2014)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid brown; margin-right: 5px;"></span> Wildlife Management Areas</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; margin-right: 5px;"></span> National Wetland Inventory Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed blue; margin-right: 5px;"></span> USFWS Riparian Habitat</li> </ul>
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**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

## PENSACOLA DAM

GRAND RIVER DAM AUTHORITY

### MAP: F6

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

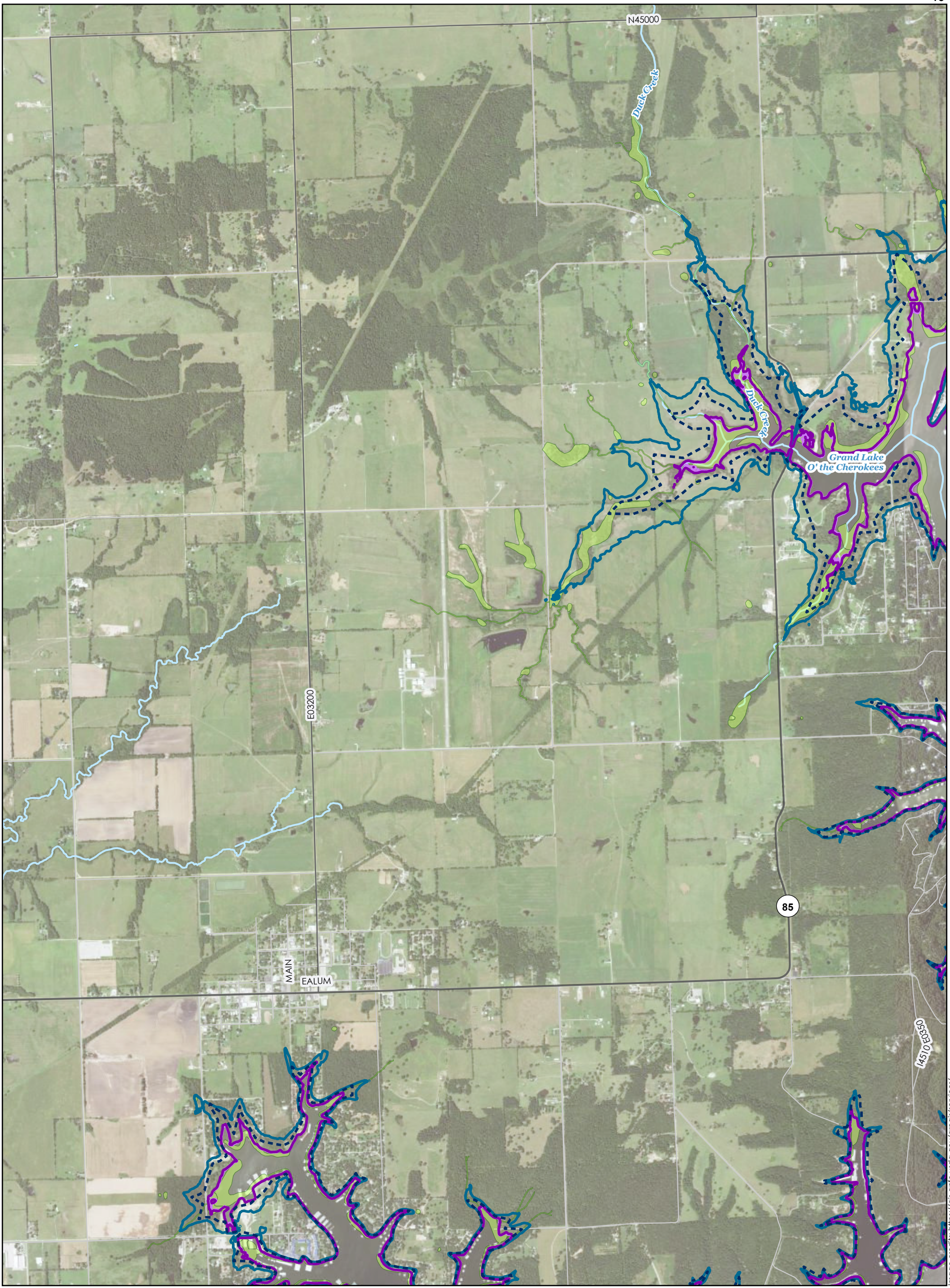
**FERC No. 1494**  
September 2022

Image credits: [https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019









### WETLAND AND RIPARIAN INUNDATION CHANGES

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet

<p><b>INUNDATION</b></p> <ul style="list-style-type: none"> <li><span style="border: 2px solid blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Maximum Inundation</li> <li><span style="border: 2px solid purple; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Anticipated Operations</li> <li><span style="border: 2px solid pink; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Baseline Operations</li> </ul>	<p><b>ROAD CLASS</b></p> <ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid blue; display: inline-block; width: 15px; margin-right: 5px;"></span> Interstate</li> <li><span style="border-bottom: 2px solid grey; display: inline-block; width: 15px; margin-right: 5px;"></span> State Highway</li> <li><span style="border-bottom: 2px solid red; display: inline-block; width: 15px; margin-right: 5px;"></span> US Highway</li> <li><span style="border-bottom: 2px solid black; display: inline-block; width: 15px; margin-right: 5px;"></span> Major Collector</li> <li><span style="border-bottom: 2px solid grey; display: inline-block; width: 15px; margin-right: 5px;"></span> Local Road</li> <li><span style="border-bottom: 2px dashed yellow; display: inline-block; width: 15px; margin-right: 5px;"></span> Railroad</li> </ul>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid blue; display: inline-block; width: 15px; margin-right: 5px;"></span> Stream</li> <li><span style="border: 2px dashed blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Project Boundary (2014)</li> <li><span style="border: 2px dashed orange; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wildlife Management Areas</li> <li><span style="background-color: lightgreen; border: 1px solid green; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> National Wetland Inventory Wetland</li> <li><span style="background-color: lightblue; border: 1px solid blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> USFWS Riparian Habitat</li> </ul>
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**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM**

GRAND RIVER DAM AUTHORITY

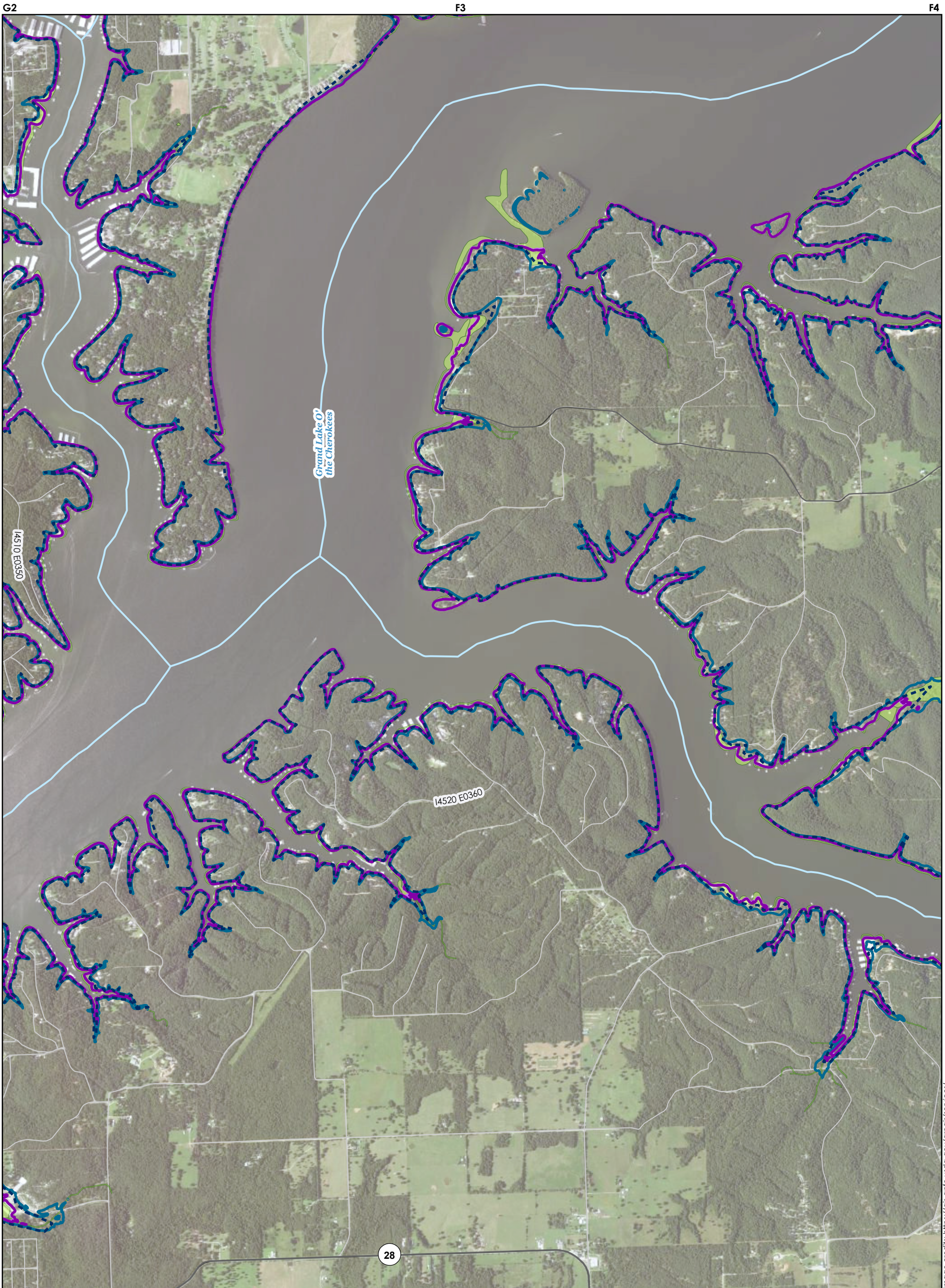
**MAP: G2**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**

September 2022





### WETLAND AND RIPARIAN INUNDATION CHANGES

**NORTH**

**Legend**

<p><b>INUNDATION</b></p> <ul style="list-style-type: none"> <li><span style="border: 2px solid blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Maximum Inundation</li> <li><span style="border: 2px solid purple; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Anticipated Operations</li> <li><span style="border: 2px solid magenta; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Baseline Operations</li> </ul>	<p><b>ROAD CLASS</b></p> <ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid blue; display: inline-block; width: 15px; margin-right: 5px;"></span> Interstate</li> <li><span style="border-bottom: 2px solid grey; display: inline-block; width: 15px; margin-right: 5px;"></span> State Highway</li> <li><span style="border-bottom: 2px solid red; display: inline-block; width: 15px; margin-right: 5px;"></span> US Highway</li> <li><span style="border-bottom: 2px solid black; display: inline-block; width: 15px; margin-right: 5px;"></span> Major Collector</li> <li><span style="border-bottom: 2px solid grey; display: inline-block; width: 15px; margin-right: 5px;"></span> Local Road</li> <li><span style="border-bottom: 2px solid yellow; display: inline-block; width: 15px; margin-right: 5px;"></span> Railroad</li> </ul>	<ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid blue; display: inline-block; width: 15px; margin-right: 5px;"></span> Stream</li> <li><span style="border-bottom: 2px dashed blue; display: inline-block; width: 15px; margin-right: 5px;"></span> Project Boundary (2014)</li> <li><span style="border: 2px solid brown; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wildlife Management Areas</li> <li><span style="border: 2px solid green; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> National Wetland Inventory Wetland</li> <li><span style="border: 2px dashed blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> USFWS Riparian Habitat</li> </ul>
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**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM**  
GRAND RIVER DAM AUTHORITY

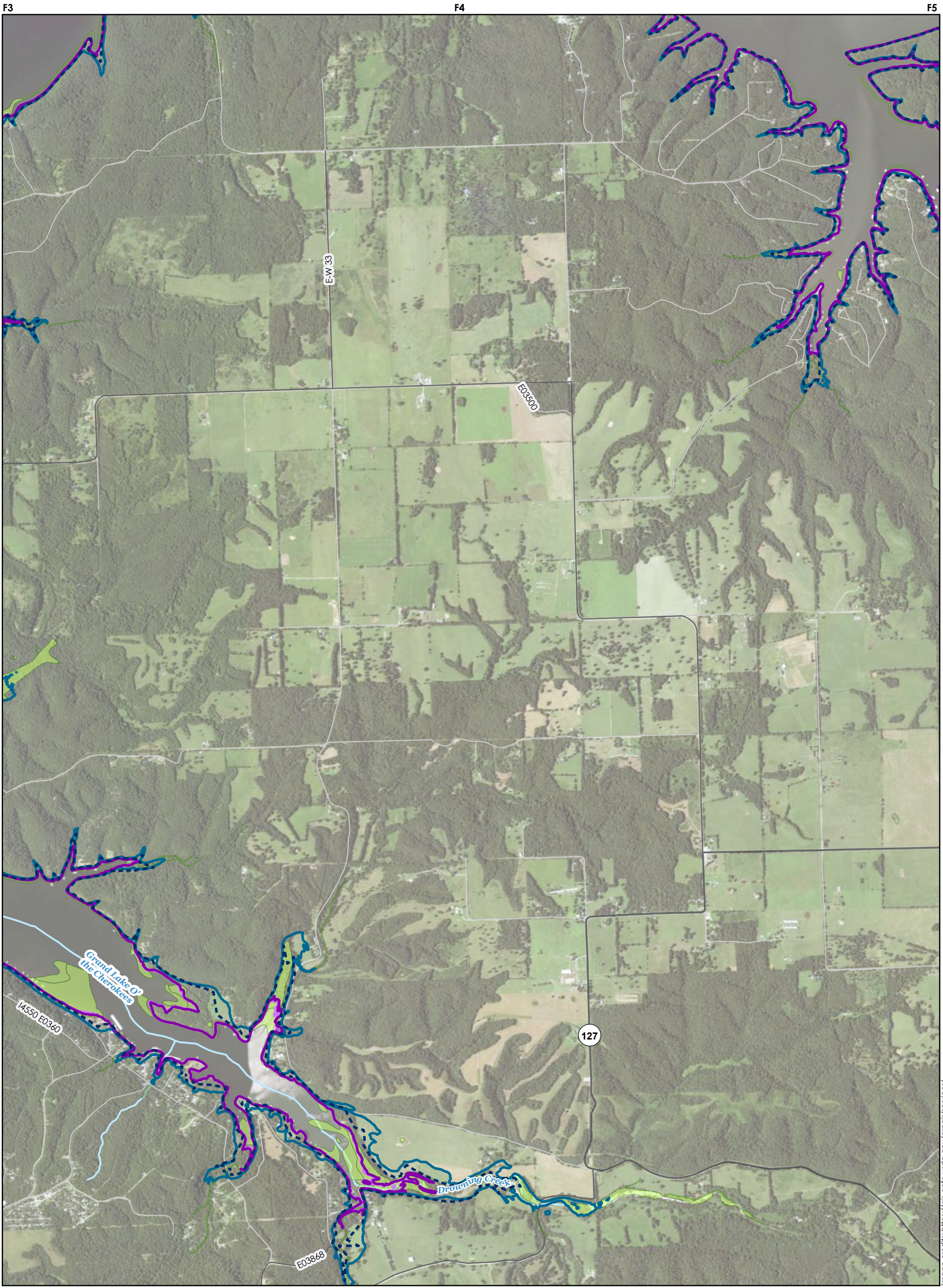
**MAP: G3**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022

Image credits: https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\_CONUS\_PRIME/ImageServer, 2019





### WETLAND AND RIPARIAN INUNDATION CHANGES

**NORTH**

<p><b>INUNDATION</b></p> <ul style="list-style-type: none"> <li><span style="border: 2px solid blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Maximum Inundation</li> <li><span style="border: 2px solid purple; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Anticipated Operations</li> <li><span style="border: 2px solid pink; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wetland and Riparian Inundation Areas, Baseline Operations</li> </ul>	<p><b>ROAD CLASS</b></p> <ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid blue; display: inline-block; width: 20px; margin-right: 5px;"></span> Interstate</li> <li><span style="border-bottom: 2px solid grey; display: inline-block; width: 20px; margin-right: 5px;"></span> State Highway</li> <li><span style="border-bottom: 2px solid red; display: inline-block; width: 20px; margin-right: 5px;"></span> US Highway</li> <li><span style="border-bottom: 2px solid black; display: inline-block; width: 20px; margin-right: 5px;"></span> Major Collector</li> <li><span style="border-bottom: 2px solid grey; display: inline-block; width: 20px; margin-right: 5px;"></span> Local Road</li> <li><span style="border-bottom: 2px solid yellow; display: inline-block; width: 20px; margin-right: 5px;"></span> Railroad</li> </ul>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid blue; display: inline-block; width: 20px; margin-right: 5px;"></span> Stream</li> <li><span style="border-bottom: 2px dashed blue; display: inline-block; width: 20px; margin-right: 5px;"></span> Project Boundary (2014)</li> <li><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Wildlife Management Areas</li> <li><span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> National Wetland Inventory Wetland</li> <li><span style="background-color: #ADD8E6; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> USFWS Riparian Habitat</li> </ul>
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**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM**  
 GRAND RIVER DAM AUTHORITY

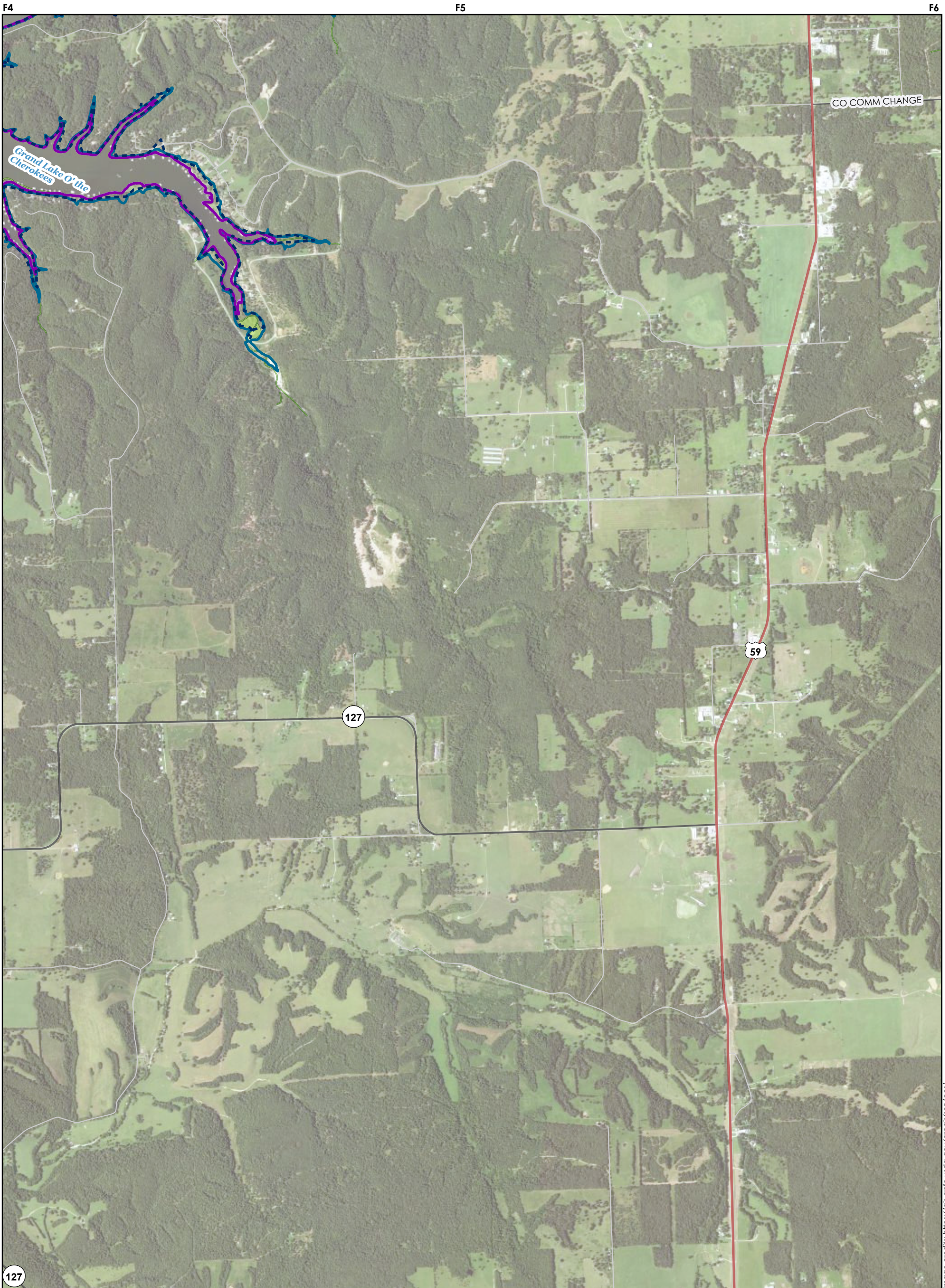
**MAP: G4**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

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 September 2022

Image credits: [https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019





### WETLAND AND RIPARIAN INUNDATION CHANGES

**NORTH**

**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**ROAD CLASS**

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**Legend**

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**PENSACOLA DAM**  
GRAND RIVER DAM AUTHORITY

**MAP: G5**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022

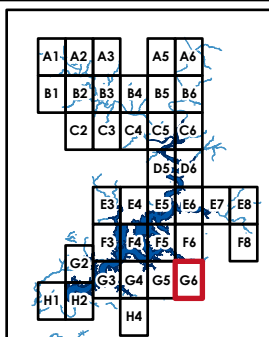
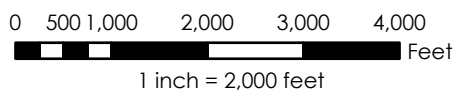
Image credits: https://gis.dplfo.usda.gov/arcgis/services/NAIP/USDA\_CONUS\_PRIME/ImageServer, 2019





H5 H6 H7

**WETLAND AND RIPARIAN INUNDATION CHANGES**



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

**ROAD CLASS**

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

**MAP: G6**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022



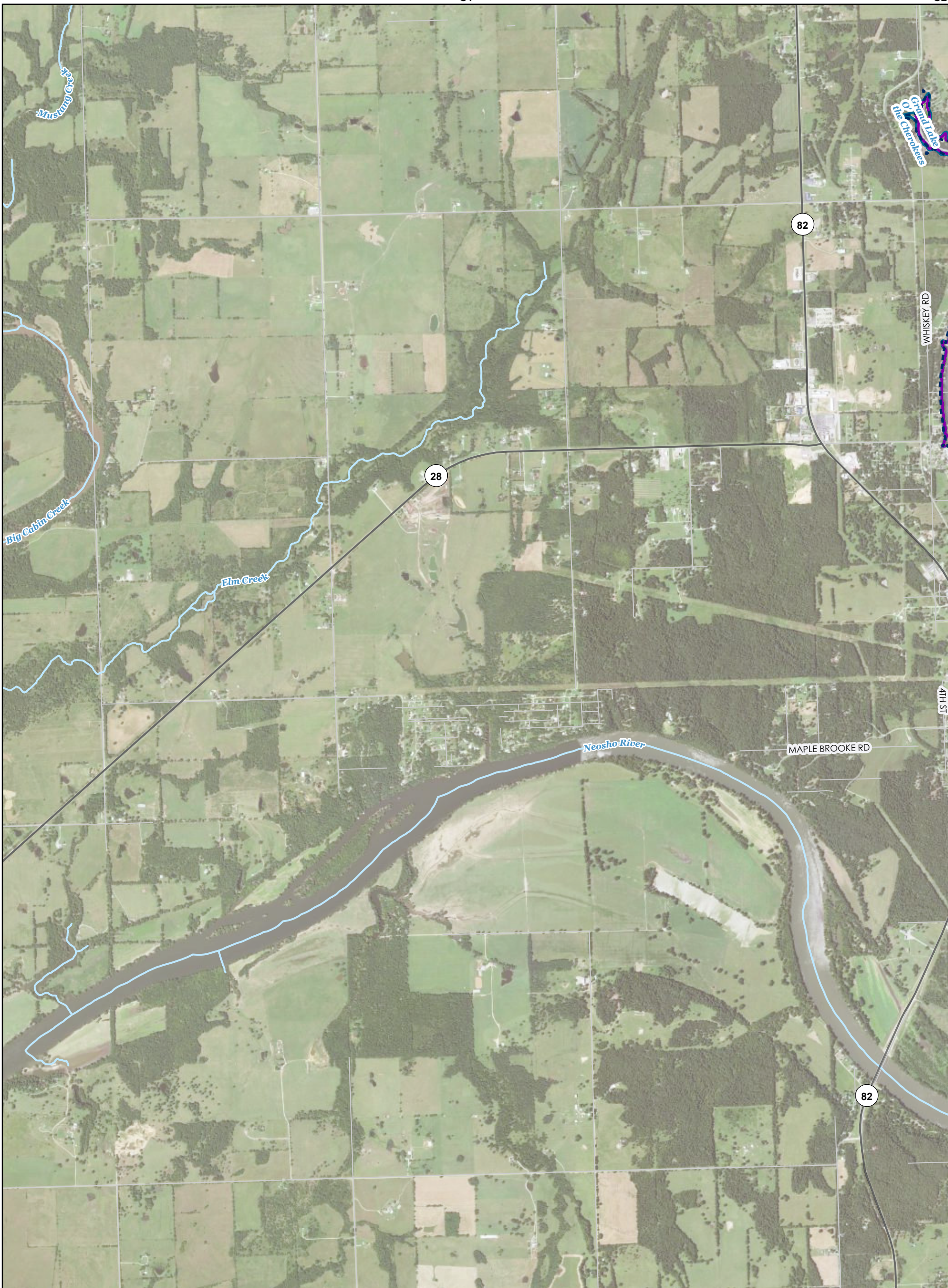
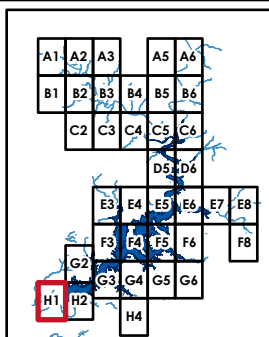
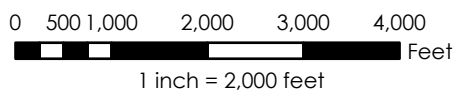


Image credits: [https://gis.dplfo.usda.gov/arcgis/services/NAIP/USDA\\_CONUS\\_PRIME/ImageServer](https://gis.dplfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2019

**WETLAND AND RIPARIAN INUNDATION CHANGES**



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

**ROAD CLASS**

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road
- Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

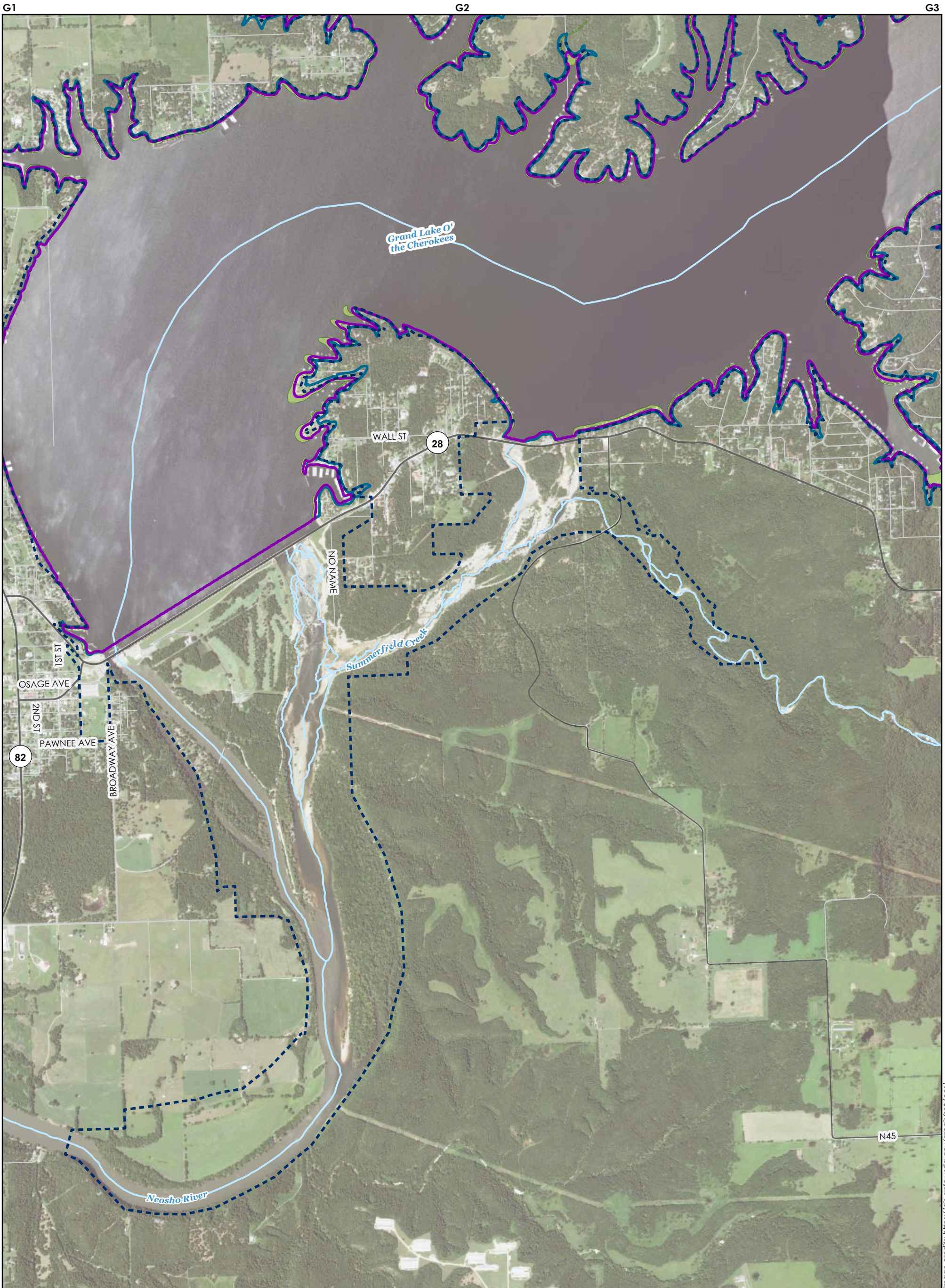
**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

**MAP: H1**

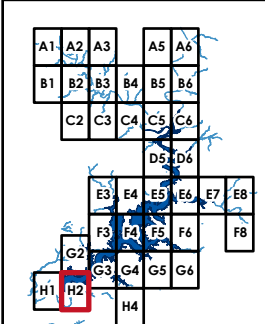
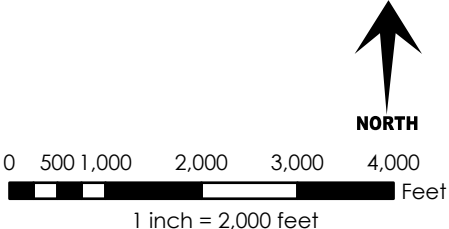
CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022





**WETLAND AND RIPARIAN INUNDATION CHANGES**



- INUNDATION**
- Maximum Inundation
  - Wetland and Riparian Inundation Areas, Anticipated Operations
  - Wetland and Riparian Inundation Areas, Baseline Operations
- ROAD CLASS**
- Interstate
  - State Highway
  - US Highway
  - Major Collector
  - Local Road
  - Railroad

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

- Legend**
- Stream
  - Project Boundary (2014)
  - Wildlife Management Areas
  - National Wetland Inventory Wetland
  - USFWS Riparian Habitat

**PENSACOLA DAM**  
 GRAND RIVER DAM AUTHORITY

**MAP: H2**

CRAIG, DELAWARE, MAYES, AND  
 OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
 September 2022

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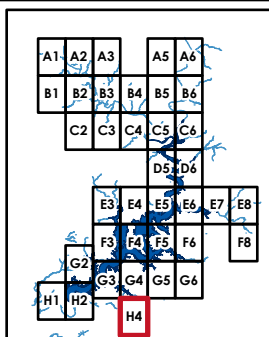


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**WETLAND AND RIPARIAN INUNDATION CHANGES**



0 500 1,000 2,000 3,000 4,000 Feet  
1 inch = 2,000 feet



**INUNDATION**

- Maximum Inundation
- Wetland and Riparian Inundation Areas, Anticipated Operations
- Wetland and Riparian Inundation Areas, Baseline Operations

**Legend**

- ROAD CLASS**
- Interstate
  - State Highway
  - US Highway
  - Major Collector
  - Local Road
  - Railroad

- Stream
- Project Boundary (2014)
- Wildlife Management Areas
- National Wetland Inventory Wetland
- USFWS Riparian Habitat

**MAP AND LEGEND NOTES**

1. Mapping shows the extent of inundation calculated using the H&H Study Operations Model and Upstream Hydraulic Model. **These maps represent the work of the H&H Study and are not to be used as shown for resource analysis purposes.**
2. Estimated inundation extent for normal (median) inflows and operations during the active wetland growing season.
3. See Overview Map for an explanation of the maximum inundation extent and notes on data sources.

**PENSACOLA DAM GRAND RIVER DAM AUTHORITY**

**MAP: H4**

CRAIG, DELAWARE, MAYES, AND OTTAWA COUNTIES, OKLAHOMA

**FERC No. 1494**  
September 2022