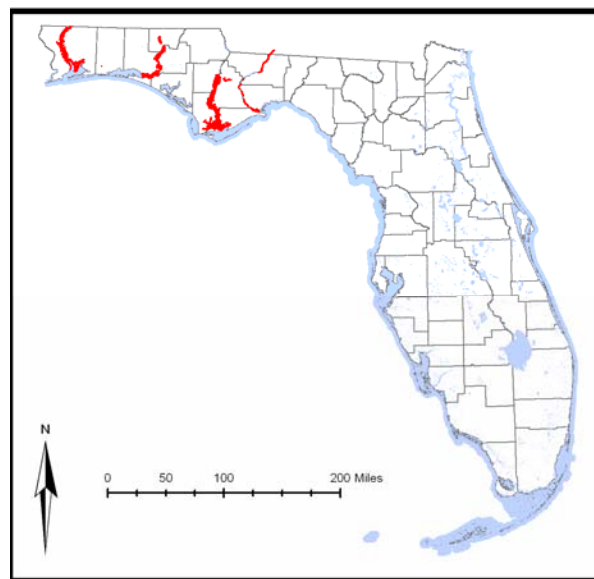


Large Alluvial Stream



Status

Current condition: Good and declining. According to the best available GIS information at this time (see Appendix D. GIS Data Tables), 1,019 miles (1,640 km) of Large Alluvial Stream habitat exist.



Some habitat distributions or locations may be misrepresented on this map due to size, resolution and insufficient data sources.

Habitat Description

FNAI type: Alluvial Stream, River Floodplain Lake, Swamp Lake

Alluvial streams originate in high uplands that are composed of sand and silt based clays, thereby giving these streams a natural high turbidity. These streams only occur in the north region of Florida and are characterized as having meandering channels with a mix of sand bottom, sand and gravel, and areas of bedrock or shoals. Large Alluvial Streams have flow rates and sediment loads that range from low to high (flood) stages, consequently causing water depth and other water quality parameters to fluctuate substantially with seasonal rainfall patterns. Flood stages which overflow the banks and inundate the adjacent floodplain and Bottomland Hardwood Forest communities usually occur one or two times each year during winter or early spring. Due to the high natural turbidity of these streams there is minimal vegetation which is mostly confined to channel edges or backwaters. Typical plants include spatterdock, duckweed, American lotus, and water hyssop. Examples of this stream category include the Escambia, Choctawhatchee, and Apalachicola rivers.

Associated Species of Greatest Conservation Need

Mammals

- | | |
|---|-----------------------------|
| • <i>Myotis austroriparius</i> | Southeastern Bat |
| • <i>Myotis grisescens</i> | Gray Bat |
| • <i>Lasiurus borealis</i> | Eastern Red Bat |
| • <i>Lasiurus seminolus</i> | Seminole Bat |
| • <i>Lasiurus intermedius</i> | Northern Yellow Bat |
| • <i>Lasiurus cinereus</i> | Hoary Bat |
| • <i>Corynorhinus rafinesquii</i> | Rafinesque's Big-eared Bat |
| • <i>Eptesicus fuscus</i> | Big Brown Bat |
| • <i>Pipistrellus subflavus</i> | Eastern Pipistrelle |
| • <i>Lutra canadensis lataxina</i> | River Otter |
| • <i>Trichechus manatus latirostris</i> | Florida Manatee |
| • <i>Tursiops truncatus</i> | Atlantic Bottlenose Dolphin |

Birds

- | | |
|------------------------------------|----------------------------|
| • <i>Anas acuta</i> | Northern Pintail |
| • <i>Ixobrychus exilis</i> | Least Bittern |
| • <i>Egretta thula</i> | Snowy Egret |
| • <i>Egretta caerulea</i> | Little Blue Heron |
| • <i>Egretta tricolor</i> | Tricolored Heron |
| • <i>Nycticorax nycticorax</i> | Black-crowned Night-Heron |
| • <i>Nyctanassa violacea</i> | Yellow-crowned Night-Heron |
| • <i>Plegadis falcinellus</i> | Glossy Ibis |
| • <i>Mycteria americana</i> | Wood Stork |
| • <i>Elanoides forficatus</i> | Swallow-tailed Kite |
| • <i>Haliaeetus leucocephalus</i> | Bald Eagle |
| • <i>Aramus guarana</i> | Limpkin |
| • <i>Grus canadensis pratensis</i> | Florida Sandhill Crane |
| • <i>Recurvirostra americana</i> | American Avocet |
| • <i>Protonotaria citrea</i> | Prothonotary Warbler |

Amphibians

- | | |
|-----------------------------------|---------------------------|
| • <i>Amphiuma pholeter</i> | One-toed Amphiuma |
| • <i>Desmognathus auriculatus</i> | Southern Dusky Salamander |

Reptiles

- | | |
|--|---------------------------|
| • <i>Macrochelys temminckii</i> | Alligator Snapping Turtle |
| • <i>Graptemys barbouri</i> | Barbour's Map Turtle |
| • <i>Pseudemys concinna suwanniensis</i> | Suwannee Cooter |
| • <i>Farancia erythrogramma</i> | Rainbow Snake |

Fish

- | | |
|--|----------------------------|
| • <i>Acipenser oxyrinchus desotoi</i> | Gulf Sturgeon |
| • <i>Atractosteus spatula</i> | Alligator Gar |
| • <i>Anguilla rostrata</i> | American Eel |
| • <i>Alosa alabamae</i> | Alabama Shad |
| • <i>Cyprinella callitaenia</i> | Bluestripe Shiner |
| • <i>Hybognathus hayi</i> | Cypress Minnow |
| • <i>Macrhybopsis n. sp. cf aestivalis</i> | Florida Chub/Speckled chub |

- *Moxostoma n. sp. cf poecilurum* Grayfin Redhorse
- *Moxostoma carinatum* River Redhorse
- *Ameiurus brunneus* Snail Bullhead
- *Ameiurus serracanthus* Spotted Bullhead
- *Morone saxatilis* Striped Bass
- *Micropterus cataractae* Shoal Bass
- *Crystallaria asprella* Crystal Darter
- *Etheostoma proeliare* Cypress Darter
- *Etheostoma histrio* Harlequin Darter
- *Etheostoma stigmaeum* Speckled Darter

Invertebrates

- *Alasmidonta undulata* Triangle Floater
- *Amblema neislerii* Fat Threeridge
- *Anodonta heardi* Apalachicola Floater
- *Anodonta suborbiculata* Flat Floater
- *Elliptio mcMichaeli* Fluted Elephant-ear
- *Elliptio purpurella* Inflated Spike
- *Elliptioideus sloatianus* Purple Bankclimber
- *Fusconaia escambia* Narrow Pigtoe
- *Fusconaia rotulata* Round Ebonyshell
- *Glebula rotundata* Round Pearlshell
- *Lampsilis australis* Southern Sandshell
- *Lampsilis ornata* Southern Pocketbook
- *Lampsilis subangulata* Shiny-rayed Pocketbook
- *Lampsilis teres* Yellow Sandshell
- *Medionidus acutissimus* Alabama Moccasinshell
- *Medionidus simpsonianus* Ochlockonee Moccasinshell
- *Megaloniaias nervosa* Washboard
- *Pleurobema pyriforme* Oval Pigtoe
- *Pleurobema strodeanum* Fuzzy Pigtoe
- *Ptychobranthus jonesi* Southern Kidneyshell
- *Quadrula infucata* Sculptured Pigtoe
- *Quincuncina burkei* Tapered Pigtoe
- *Utterbackia peggyae* Florida Floater
- *Villosa choctawensis* Choctaw Bean
- *Villosa villosa* Downy Rainbow
- *Elimia clenchi* Clench's Goniobasis
- *Dolania americana* American Sand-burrowing Mayfly
- *Brachycercus nasutus* A Mayfly
- *Hexagenia bilineata* A Mayfly
- *Pseudiron centralis* White Sand-river Mayfly
- *Asioplax dolani* A Mayfly
- *Isonychia sicca* A Mayfly
- *Hetaerina americana* American Rubyspot
- *Neurocordulia molesta* Smoky Shadowfly
- *Erpetogomphus designatus* Eastern Ringtail

Conservation Threats

Threats to the Large Alluvial Stream habitat that were also identified for multiple other habitats are addressed in the Chapter Multiple Habitat Threats and Conservation Actions. These threats include:

- Chemicals and toxins
- Groundwater withdrawal
- Incompatible forestry practices
- Incompatible recreational activities
- Invasive animals
- Surface water withdrawal and diversion

Existing dams and associated water withdrawal pose a serious source of stress to the alluvial stream habitat on the Apalachicola River and a potential future threat on several additional rivers. Dams and other activities, including incompatible forestry practices and channel modification, can appreciably alter sediment dynamics in this habitat. Additional threats specific to this habitat include Dam operations and Management of nature (i.e., water control structures/dams and levees, especially on the large interstate rivers of the Florida panhandle, as well as channel modification for the Apalachicola River specifically).

The following stresses and sources of stress threaten this habitat:

Stresses		Habitat Stress Rank
A	Altered species composition/dominance	Medium
B	Altered community structure	Medium
C	Habitat destruction or conversion	Medium
D	Fragmentation of habitats, communities, ecosystems	Medium
E	Altered hydrologic regime	Medium
F	Erosion/sedimentation	Medium
G	Altered water quality of surface water or aquifer: nutrients	Low
H	Altered water quality of surface water or aquifer: contaminants	Low

The sources of stress, or threats, were used to generate conservation actions.

Sources of Stress		Habitat Source Rank	Related Stresses (see above)
1	Dam operations	High	A, B, C, D, E, F
2	Management of nature–water control structures	High	A, B, C, D, E, F
3	Channel modification/shipping lanes	High	A, B, C, D, E, F
4	Invasive animals	Medium	A, B, C, F
5	Surface water withdrawal	Medium	D, E
6	Groundwater withdrawal	Low	E
7	Incompatible forestry practices	Low	A, B, C, D, E, F
8	Chemicals and toxins	Low	A

Sources of Stress		Habitat Source Rank	Related Stresses (see above)
9	Incompatible recreational activities	Low	A, B, C, F
Statewide Threat Rank of Habitat		High	

Conservation Actions

Actions to abate the threats to Large Alluvial Stream that were also identified as statewide threats (Invasive animals, Surface water withdrawal and diversion, Groundwater withdrawal, Incompatible forestry practices, Chemicals and toxins, Incompatible recreational activities) are in the Chapter Multiple Habitat Threats and Conservation Actions.

Several of the actions developed for a statewide threat were only applicable to Large Alluvial Stream and a few other habitats, and are listed below. Additional actions were developed to address threats specific to this habitat. These actions were intended to reduce the impacts of dams and dam operations on movement and survival of aquatic species by retrofitting and restoring existing structures or by setting limits on the magnitude, duration, and frequency of downstream water releases required to support aquatic habitat.

Dam operations

Overall Rank	Capacity Building	Feasibility	Benefits	Cost
H	Coordinate interstate Strategy actions to ensure that all fish and wildlife resources in all states are protected when changing dam operations in shared basins. (USFWS)	M	H	L
L	Coordinate multiagency review of USACE activities, including biological aspects (fish spawn guidelines, protection of fish and wildlife resources) of water control plans for interstate water projects, fish spawn guidelines, re-establishing natural seasonal fluctuation of flows.	H	L	M
Overall Rank	Land/Water/Species Management	Feasibility	Benefits	Cost
H	Raise the intake water from the Ochlockonee Dam to increase downstream dissolved oxygen content to natural levels.	VH	M	H
Overall Rank	Research	Feasibility	Benefits	Cost
H	Determine the appropriate hydrological flows and levels for water reservations on the Apalachicola, Yellow, Ochlockonee, and other interstate rivers using the ESWM (Ecologically Sustainable Water Management) approach.	M	H	H
M	Complete research on anadromous fish passage implementation and effectiveness on the Apalachicola River. Expand research to Lake Talquin Dam.	H	M	H
M	Evaluate cumulative impacts of small rural impoundments on fish and wildlife.	M	M	M
L	Evaluate feasibility of incentive programs to remove small rural impoundments.	H	L	L

Management of nature – water control structures

Overall Rank	Land/Water/Species Management	Feasibility	Benefits	Cost
L	Explore funding sources for fish and aquatic wildlife passage research and improvements to existing dams and other water control structures to facilitate movement of migratory species (e.g., Apalachicola Woodruff Dam work).	H	L	VH
Overall Rank	Research	Feasibility	Benefits	Cost
M	Fund research to identify the habitat needs and movement requirements of native SGCN aquatic species, inventory water control structures, and identify the extent to which particular existing water control structures negatively affect species ecology.	VH	L	M
L	Fund research to investigate the cumulative impacts of small farm ponds on low-order streams in north Florida to determine the effectiveness of existing regulations and recommend changes to the regulatory/permitting process aimed at reducing cumulative impacts.	M	L	M

Chemicals and toxins

Overall Rank	Planning and Standards	Feasibility	Benefits	Cost
L	Encourage voluntary incentives for private landowners to minimize runoff of chemicals and toxins into wetlands and aquatic systems.	H	L	M