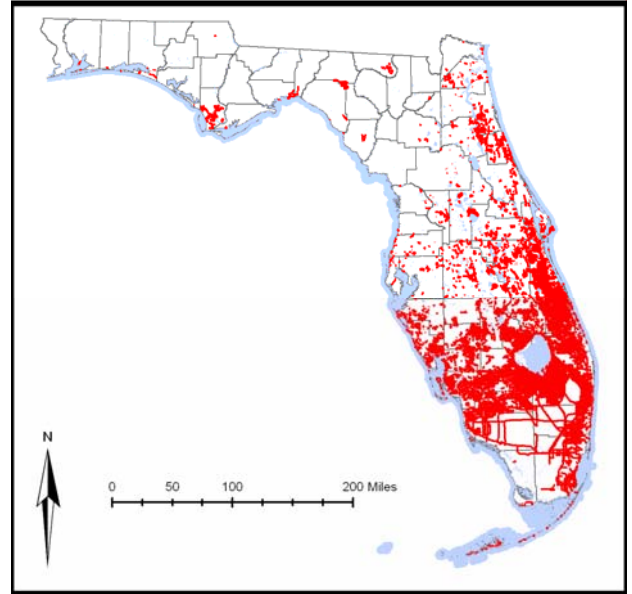


Canal/Ditch



Status

Current condition: Good and stable.
According to the best available GIS information at this time (see Appendix D. GIS Data Tables), approximately 27,594 miles (44,408 km) of Canal/Ditch are present in Florida.



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

Habitat Description

FNAI type: None

Canals are linear waterways, typically with steep sides, that frequently connect upstream wetlands or water sources with downstream habitats; they are typified by minimal or emergent vegetation. Ditches are shallow and roadside swales primarily serve as water catchments which support abundant wetland contiguous flora and fauna.

Canal/Ditch habitat in Florida serves many purposes including drainage, flood control, irrigation, navigation, and recreation. These waterways provide alternative habitat that would not otherwise be available. Species, such as the Panama City crayfish, have adapted to surviving in roadside ditches that may not always be recognized as a viable resource.

Associated Species of Greatest Conservation Need

Mammals

- *Blarina carolinensis shermani* Sherman's Short-tailed Shrew
- *Eumops floridanus* Florida Bonneted Bat
- *Myotis austroriparius* Southeastern Bat
- *Myotis grisescens* Gray Bat
- *Lasiurus borealis* Eastern Red Bat
- *Lasiurus seminolus* Seminole Bat
- *Lasiurus intermedius* Northern Yellow Bat
- *Lasiurus cinereus* Hoary Bat
- *Corynorhinus rafinesquii* Rafinesque's Big-eared Bat
- *Eptesicus fuscus* Big Brown Bat
- *Pipistrellus subflavus* Eastern Pipistrelle
- *Lutra canadensis lataxina* River Otter
- *Trichechus manatus latirostris* Florida Manatee

Birds

- *Anas fulvigula fulvigula* Florida Mottled Duck
- *Ardea herodias occidentalis* Great White Heron
- *Botaurus lentiginosus* American Bittern
- *Egretta thula* Snowy Egret
- *Egretta caerulea* Little Blue Heron
- *Egretta tricolor* Tricolored Heron
- *Nycticorax nycticorax* Black-crowned Night-Heron
- *Nyctanassa violacea* Yellow-crowned Night-Heron
- *Ajaja ajaja* Roseate Spoonbill
- *Eudocimus albus* White Ibis
- *Mycteria americana* Wood Stork
- *Rostrhamus sociabilis plumbeus* Snail Kite
- *Haliaeetus leucocephalus* Bald Eagle
- *Aramus guarana* Limpkin
- *Numenius phaeopus hudsonicus* Whimbrel
- *Sterna antillarum* Least Tern
- *Dendroica petechia gundlachi* Cuban Yellow Warbler

Reptiles

- *Crocodylus acutus* American Crocodile
- *Kinosternon subrubrum steindachneri* Florida Mud Turtle
- *Kinosternon baurii* Key Mud Turtle
- *Clemmys guttata* Spotted Turtle
- *Deirochelys reticularia* Chicken Turtle
- *Nerodia cyclopion* Mississippi Green Water Snake
- *Thamnophis sauritus* Lower Keys Ribbon Snake
- *Drymarchon couperi* Eastern Indigo Snake
- *Lampropeltis getula* Common Kingsnake

Fish

- *Megalops atlanticus* Tarpon
- *Anguilla rostrata* American Eel
- *Umbra pygmaea* Eastern Mudminnow
- *Acantharchus pomotis* Mud Sunfish
- *Mugil cephalus* Striped Mullet
- *Mugil curema* White Mullet

- *Centropomus ensiferus* Swordspine Snook
- *Centropomus parallelus* Smallscale Fat Snook
- *Centropomus pectinatus* Tarpon Snook
- *Centropomus undecimalis* Common Snook
- *Dormitator maculatus* Fat Sleeper

Invertebrates

- *Villosa amygdala* Florida Rainbow
- *Procambarus apalachicola* A Crayfish
- *Procambarus capillatus* A Crayfish
- *Procambarus econfinae* Panama City Crayfish
- *Procambarus escambiensis* A Crayfish
- *Procambarus latipleurum* A Crayfish
- *Procambarus rathbunae* A Crayfish
- *Procambarus rogersi rogersi* A Crayfish
- *Procambarus suttkusi* A Crayfish
- *Romulus globosus* Round-necked Romulus
- *Chelyoxenus xerobatis* Gopher Tortoise Hister Beetle
- *Aphodius troglodytes* Gopher Tortoise Aphodius Commensal Scarab Beetle
- *Copris gopheri* Gopher Tortoise Copris Commensal Scarab Beetle
- *Onthophagus polyphemi polyphemi* Gopher Tortoise Onthophagus Commensal Scarab Beetle
- *Brachycercus nasutus* A Mayfly
- *Attenella attenuata* A Mayfly
- *Hexagenia limbata* A Burrowing Mayfly
- *Asioplax dolani* A Mayfly
- *Homoeoneuria dolani* Blue Sand-river Mayfly
- *Isonychia beneri* A Mayfly
- *Hetaerina americana* American Rubyspot
- *Neurocordulia molesta* Smoky Shadowfly
- *Neurocordulia obsoleta* Umber Shadowfly
- *Erpetogomphus designatus* Eastern Ringtail
- *Gomphus modestus* Gulf Coast Clubtail
- *Lestes inaequalis* Elegant Spreadwing
- *Macromia alleghaniensis* Allegheny River Cruiser
- *Cheumatopsyche petersi* Peters' Little Sister Sedge Caddisfly
- *Oxyethira janella* Little-entrance Oxyethiran Microcaddisfly
- *Oecetis floridana* Florida Long-horn Sedge
- *Oecetis parva* Little Longhorned Caddisfly
- *Chimarra florida* Floridian Finger-net Caddisfly
- *Agarodes libalis* Spring-loving Psiloneuran Caddisfly

Conservation Threats

Canal/Ditch presently serves as surrogate habitat for a few aquatic SGCN in lieu of native historic habitat that has now largely been eliminated. Examples include the suite of “tropical peripheral” fishes (including opossum pipefish and several rare gobiid species) that now inhabit and spawn in coastal canals in the Indian River Lagoon and lower east coast of Florida in lieu of historical natural freshwater streams. Similarly, a number of marine species such as tarpon, ladyfish, and many others utilize canals in south and central Florida during some stages of their life

cycles. In north Florida, the Panama City crayfish (a burrowing species once found in seasonally wet pine flatwoods in a small area of Bay County) now almost exclusively relies on shallow roadside swales and ditches because natural flatwoods in this area have been converted to developed land uses.

Although this situation clearly points to the need for conservation actions that involve restoring historic habitat for these species, in many cases where such habitat has been eliminated, this may not be feasible. Consequently, despite the fact that canals and ditches rank as a source of stress for many habitats and species, maintaining existing sub-optimal habitat for these species in canals and ditches and taking action to reduce stress levels in these environments is critical.

From the perspective of SGCN that utilize canals and ditches as a primary habitat or a critical habitat for certain life stages, the following stresses and sources of stress are most important to consider:

- Habitat destruction/conversion—Loss of existing ditch or swale habitat to curb and gutter or underground storm-sewer-type drainage systems associated with more intensive urban or suburban development (applies only in north region), or loss of “riparian” cover along canals/ditches as a result of canal maintenance practices (applies to central and south regions)

Sources: Conversion to housing and development (north region), intensification of surface water diversion/drainage associated with more intensive development (north region), incompatible canal maintenance practices (e.g., removing all canal bank vegetation through herbicide applications, etc.) (all regions)

- Altered landscape mosaic—Destruction or conversion of wet flatwoods adjacent to roadside ditches (north region)

Source: Conversion to housing and development (north region)

- Altered water quality—Nutrients

Sources: Nutrient loads—agriculture (all regions), Nutrient loads—urban storm water (all regions)

- Altered water quality—Contaminants

Sources: Chemicals/toxins—oil/grease and heavy metals from roads (north region), incompatible agricultural practices—pesticides in runoff or drainage water (all regions), incompatible residential practices—pesticides in runoff (all regions), mosquito control (north region)

- Altered hydrologic regime—Large pulses of flood water or storm runoff that disrupts life cycle requirements or alters or removes physical habitat

Sources: Management of dams/control structures (central/south regions), incompatible agricultural practices–management of runoff (all regions), incompatible residential practices–management of runoff (all regions)

Conservation Actions

Actions to abate threats to Canal/Ditch habitat were not addressed directly in the actions workshops due to the experts’ impression that it is not a natural habitat and more often acts as a threat to other habitats. However, one action was suggested in conjunction with the threat of invasive species that applies to this habitat. In addition, several desired outcomes were identified in the threat workshops that may guide actions developed to better manage this habitat for the needs of SGCN:

- Removal of or application of herbicide to native freshwater marsh vegetation should not be done in conjunction with canal maintenance in areas with known populations of SGCN
- Water releases should be managed to maintain adequate water velocities and dissolved oxygen needed to support fish and other aquatic life

Invasive Animals

Overall Rank	Planning and Standards	<i>Feasibility</i>	<i>Benefits</i>	Cost
L	Promote canal designs that limit opportunities for movement and establishment of exotic aquatic species.	M	L	L