

## DESCRIPTION

LENGTH.....8–9” at birth; typical old male 15’, female about 10’ largest recorded in FL 17’5”

WEIGHT.....varies among alligators (not related to length); largest males can weigh up to 1,000 pounds

COLOR..... adults black; young have vertical yellow bands until about 3-4 years old

TAIL.....tail equals half total body length; used for locomotion in the water; fat stored at the base, so healthy gator has a large, wide base

TEETH.....70-80 white, pointed teeth of similar shape

LIFESPAN.. about 30–40 years in the wild

## COURTSHIP

WHEN.....usually begins in early April

HOW..... consists of varied sequence of snout-touching, bellowing, coughing, back-rubbing, circling, bubble-blowing and swimming together; can last for minutes or hours at a time; performed over 6–8 week courtship period

## BREEDING

AGE..... breeds at about 8–10 years in wild, 6 in captivity

NEST..... of vegetation, sticks, leaves, and mud built by female in a sheltered spot in or near water with mound tall enough that eggs are above high water mark

EGGS..... 20-40 goose-egg-sized; about half hatch

INCUBATE..65 days; females do not sit on nest except to repair or pack it down; heat comes from rotting vegetation rotting vegetation in nest; sex of young determined in first 3 weeks by temperature inside nest (>91°=male, <85°F=female, between either); hatching may occur from mid-August to early September; young begin to make noises (“chirping”) from inside egg and female will dig out eggs to help young to water

OTHER..... females responsible for nest and guard it from other alligators and land predators (raccoons, otters); turtles frequently dig into nest to lay their eggs

## YOUNG

SIZE.....8-9” in length at birth; grow 9-10”/year until about 5

DIET.....live off yolk sack first 2-3 days; then catch crayfish, snails, insects

SAFETY.....mother gators *very* protective of offspring, which may stay near her for up 2 years

PREDATION..young eaten by raccoons, otters, herons, snakes, fish and other alligators; about half survive to be 1 yr. old

## RANGE

Found throughout the Southeast in the coastal swamps from the Carolinas around the coast to Texas and as far north as Arkansas in coastal flatlands; prefer fresh water but can tolerate some brackish water

# Alligators



## FEEDING

DIET.....primarily fish, but also insects, crabs, frogs, snails, turtles, snakes, birds, raccoons, otters, deer, and other alligators; also known to eat already dead animals

METHOD.... Small prey swallowed whole; alligator bites down on larger prey repeatedly using combination of sharp teeth and strong jaw muscles to break bones or shells so the whole item can be swallowed; large prey may also be shaken and slapped against water or shore to rip off swallowing-sized pieces; alligators roll under water with very large prey, submerging victim and drowning it; dead prey dragged around or guarded until meat rots enough to be ripped apart

FREQUENCY..little energy spent maintaining high body temperature since cold-blooded and less food needed; healthy alligators can go many months without food; feed most often when temperatures between 73–90°F

## LOCOMOTION

WATER.....Tuck legs close to sides and propel bodies forward with sidestrokes of tails. Webbed hind feet act as paddles and brakes while tail is motor and rudder; cruise through water at just over 1 mph; in pursuit of prey can swim much faster over short distances; powerful tails enable them to hydroplane at surface or leap and lunge out of water up to 5 feet in air with incredible speed

LAND..... can lumber along dragging tail, or can walk on toes with heels of hind feet and most of tail well off the ground. Using this “high walk,” alligators can run up to 30 mph for very short distances.

## SENSES

- physical stimulation from environment triggers senses of touch, sight, hearing
- chemical signals trigger taste and smell
- sides of head loaded with sensitive touch receptors; sensitive lip scales enable it to detect movement/vibration from prey, mates, territorial rivals, and approaching predators
- well-developed sense of smell used to detect prey and identify potential mates
- have acute sense of hearing and always on alert for prey-like sounds, especially when hungry; show unmistakable response to faintest vibrations produced when small animal jumps into their water

## COLD BLOOD

- All activity – feeding, metabolic rate and even digestion – is dependent on external temperature (feeding behavior ceases when water temperatures drop below about 60°F)
- Heat from sun activates digestive enzymes, so cold temps can kill a gator with a full stomach because the food will rot instead of digest.
- optimum body temperature is around 89°F
- when air/water temperatures cool, alligators crawl out of the water to warm in the sun where dark skin absorbs the heat
- when too warm, return to the water to cool off
- on cool windy days or hot summer days, remain in the water

## SUBMERGING

**GET READY....** Like a submarine preparing to dive, alligators also close hatches. A semitransparent membrane or third eyelid called the nictitating membrane covers eyes; folds of skin close over the ears; muscles contract sealing the nostrils shut; and throat closes tight, enabling it to open its mouth to catch and hold prey underwater without drowning.

**TIME.....** Several hours if not actively swimming or hunting (then it's only about 20 minutes). They do this by rerouting blood to reduce circulation to the lungs, and thus the need for oxygen.

**ECONOMY.....** Wasted motion in water or on land is unknown; immobility allows them to conserve metabolically (and remain unobtrusive in case anything good to eat wanders too closely).

*Biological explanation:* When alligators hold their breath, carbon dioxide builds up in their blood, dissolves, and forms bicarbonate ions. The ions bind to amino acids in the hemoglobin. Once bound, the ions cause the oxygen-carrying hemoglobin to release additional oxygen molecules into the blood system, increasing the amount of oxygen available to the reptile's body tissues.

## MOUTH

### TEETH

- roughly 20 pairs of inch-long replaceable teeth on each jaw
- used for seizing, holding, and crushing prey
- hollow and conical-shaped
- new teeth interstacked below gum line and continuously push up from sockets to replace worn teeth or those broken off in combat or biting on hard objects

### SIZE

- can entirely engulf small water creature or leap out of water to grab leg or snout of larger prey
- light colored skin along jaw line only highlights about two-thirds of mouth (actual mouth extends well past eyes to base of neck)

### JAWS

- powerful muscles slam jaws shut with force estimated up to 2,000 pounds per square inch
- once closed, jaws cannot be forced open (only punch to sensitive snout or poke in eye might startle them enough to release grip)

## COMMUNICATION

Alligators use visual, aural, tactile, and olfactory cues. Complex body postures and movements communicate a variety of information. Both sexes give off musk. Even though they have no vocal chords, alligators hiss, grunt, cough, growl, and bellow.

### HISS

- long, loud, full-bodied hiss is defensive warning
- typically produced just prior to defensive attack

### BELLOW

- Bellowing choruses occur most often in spring when breeding groups congregate, but can occur any time
- repeated calls carry great distances around water
- females produce single characteristic bellow-growl when approached by male
- tone and intensity of bellow influenced by body size, gender, and individualized differences in calling patterns.
- to bellow, male noticeably inflates as he raises tail and head out of water; slowly waving tail back and forth, puffs out throat, and with closed mouth begins to vibrate air
- just before bellowing, males project an infrasonic signal at about 10 Hz through water that vibrates ground and nearby objects
- the low-frequency vibrations travel great distances through both air and water to advertise caller's presence
- vibrations are so strong they literally make the water "dance." Male use "water dance" to woo females and signal location and dominance among other males
- tuned to B-flat and will below to french horns at that pitch, as well as to sonic booms and thunder.

## VISION

### AT NIGHT

- with pupils fully dilated, vision comparable to owl's
- like cats, alligators have thin layer of special reflecting tissue behind each retina called *tapetum lucidum* (bright carpet) which acts like a mirror to concentrate all available light during darkest of nights (definite advantage for night-active meat-eater); it also causes coal-red eyeshine at night when caught in flashlight beam

### PERIPHERAL

- bulging eyes on top of head provide 25 degrees of binocular vision to judge distance and attack with accuracy

### AT NIGHT

- can pull soft eye orbits down into skulls, letting them pop back up when coast is clear
- before eyes lowered, nictitating membranes close front to back, then eyelids close top to bottom

### ROTATION

- like a compass needle pointing perpetually north, oval-shaped pupils remain vertical to horizon, even when head tilted
- adaptation for enhanced, undisrupted vision possible by compass-like movement of eyeballs (but it only works when somewhat horizontal. Flip a gator on its back and visual system and equilibrium disturbed– eyes unable to focus and gator motionless while experiencing extreme vertigo.