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SRAC Publication No. 400

Southern
Regional
Aquaculture
Center

November, 1990

Avian Predators on Southern Aquaculture

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With the growth in aquaculture in the South in recent years, fish-eating birds have become an increasing problem at aquaculture facilities. The purpose of this leaflet is to enable the aquaculturist to identify common avian predators in aquacultural situations and to be aware of the relative threat each represents.

Application of effective control procedures necessitates a correct identification of the problem species. All species are protected by law and require special permits to control by lethal means.

Birds are grouped into "swimmers," "waders," and "fliers." Because of space limitations, some of the less economically important species that may cause problems in certain situations are not given full treatment. These include:

1. the olivaceous cormorant in coastal Louisiana and Texas;

2. the reddish egret in south Florida and along the Texas coast, which feeds almost exclusively in salt water habitats;

3. the common merganser scattered throughout inland areas of the South in winter;

4. the red-breasted merganser wintering mainly along the Gulf Coast in salt water;

5. the pied-billed grebe which feeds mainly on aquatic invertebrates;

6. the American coot which will sometimes feed on floating catfish feed;

7. several species of diving ducks (such as lesser scaup, greater scaup, and ring-necked duck) which occasionally feed on baitfish, crayfish, and shrimp; and

8. the boat-tailed grackle which will feed on small fish and invertebrates.

Consumption amounts

The daily consumption figures given for each species based on their body weight are only an estimate of the birds' potential. Actual daily consumption figures for these birds have yet to be determined.

Other aspects

There are other aspects of avian predators aside from the numbers of commercially produced fish and invertebrates they eat. The presence of large numbers of avian predators may indicate a sick fish condition or the presence of wild or "trash" fish in aquaculture facilities (e.g., shad in catfish ponds). While avian predators have the potential for spreading wild fish and diseases such as ESC (enteric septicemia of catfish) from pond to pond, actual avian dissemination of pathogens probably has a minimal impact on disease epidemic because pathogens are already present in the ponds.

An exception

The cattle egret shown under "waders" does little direct harm to aquacultural interests, yet is frequently found in the vicinity of aquacultural facilities. This small yellow-billed white egret is most often found in flocks foraging for terrestrial invertebrates in pastures or on pond dikes. It does not normally take aquatic organisms. However, it may decoy in other heron and egret species.

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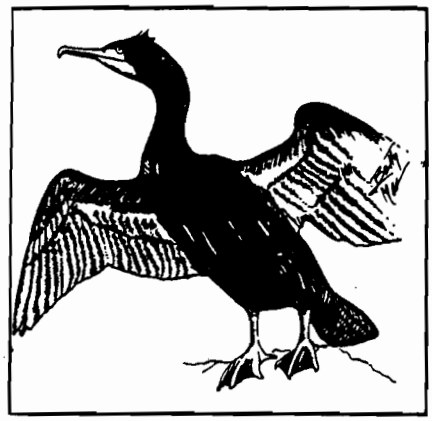
SWIMMERS

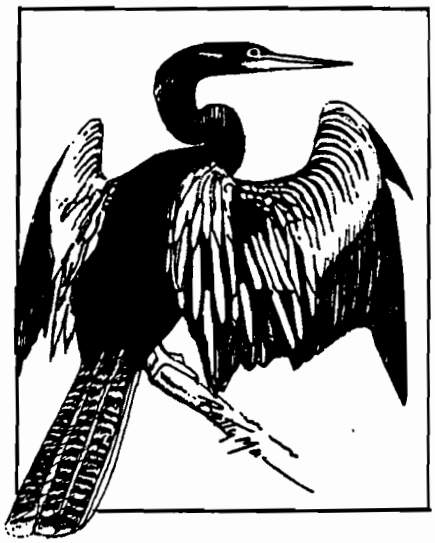
Double-crested Cormorant



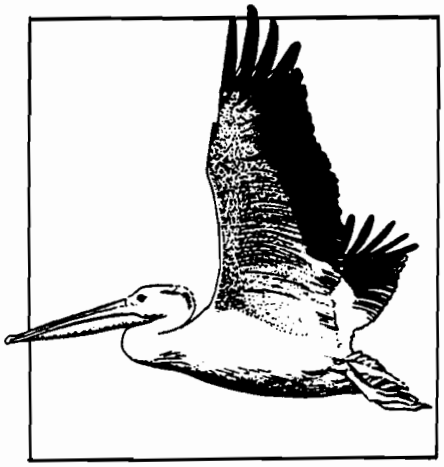
- Size of small goose
- Black body; immatures have pale-colored breast
- Hooked bill
- Fly in silent V's
- Surface-dives for prey
- Sometimes perches with wings spread
- Have been observed catching as high as 23 (five-inch size) catfish fingerlings per hour
- Consumption rate 0.5 to 1 lb/day

Anhinga

- Cormorant size and color but longer tail and snakier neck
- White feathers on wings and back
- Often perches with wings spread (cormorants at times do also)
- Often swims with only head visible
- Locally common predator on small to market-size fish
- Consumption rate roughly 0.5 lb/day



American white pelican



- Very large – 5 feet long
- White with black wingtips
- Big orange-yellow bill
- Scoops up fish while swimming on surface; also dives and plunges into water
- Locally serious predator on small to market-size fish
- Consumption rate roughly 1 lb/day

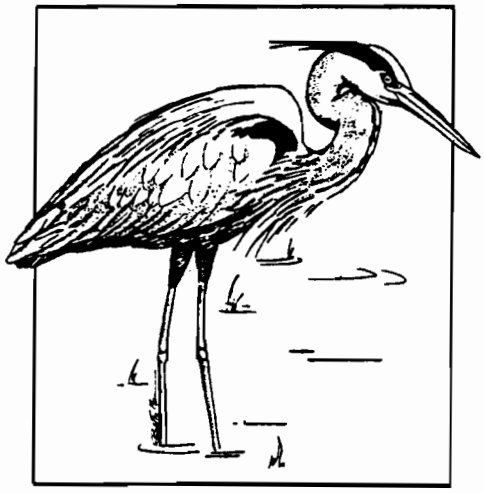
SWIMMERS

- 1.5 feet long
- Male has white crest
- Female nondescript with bushy crest
- Predator on small fish
- Consumption rate roughly 0.3 lb/day

Hooded merganser

WADERS

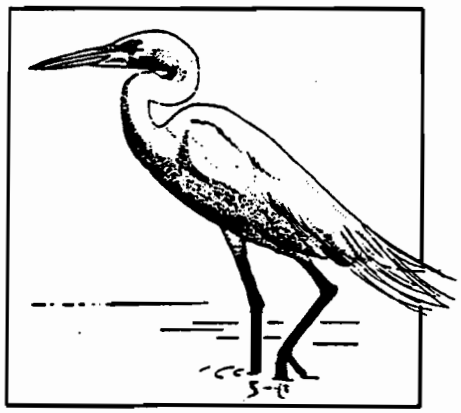
Great blue heron



- Largest heron – 4 feet tall
- Slate-bluish body; whitish head
- Usually stands motionless in shallow water
- May feed at night if harassed during day
- Common predator on small fish and crustaceans
- Consumption rate roughly 0.75 lb/day

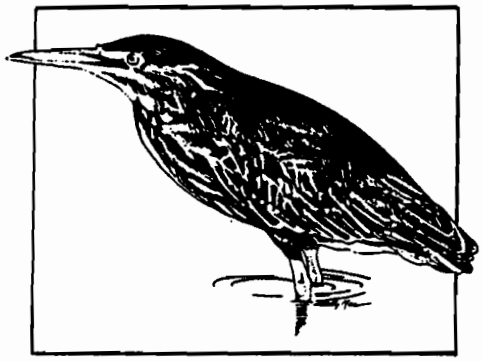
- 3 feet tall; white body
- Yellow bill; black legs
- Stalks prey in shallows
- Common predator on small fish and crustaceans
- Attracted to ponds with sick fish
- Consumption rate roughly 0.3 lb/day

Great egret



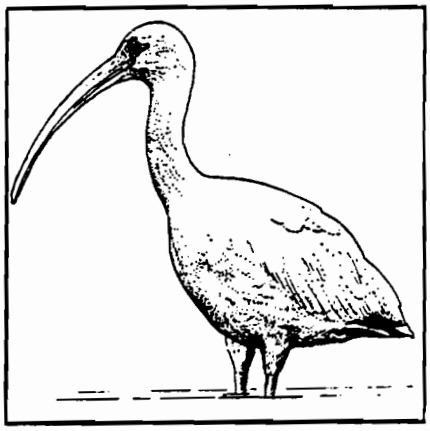
WADERS

Green-backed heron



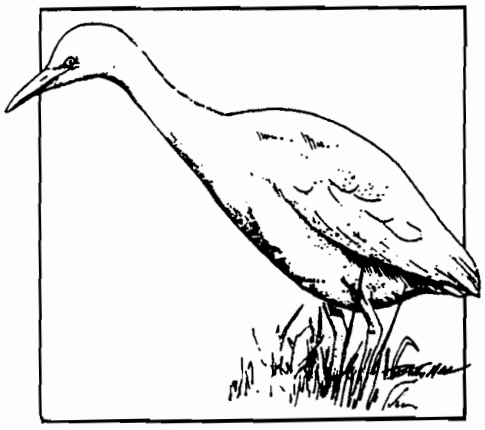
- 1.5 feet tall; solitary
- Neck and legs shorter than other herons
- Dark underparts
- Bright orange or yellow legs
- Stalks prey in shallows
- Common predator on small fish
- Consumption rate roughly 0.15 lb/day

White ibis



- 2 feet tall; decurved bill
- Adult white with red face
- Immature brownish with white belly
- Probes for prey in shallows
- Locally common predator on crawfish
- Consumption rate roughly 0.3 lb/day

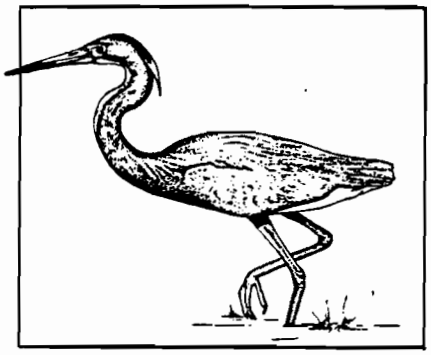
Cattle egret



- 1.5 feet tall; white
- Usually occurs in flocks
- Yellow bill; has buff on crown, breast and back in breeding season

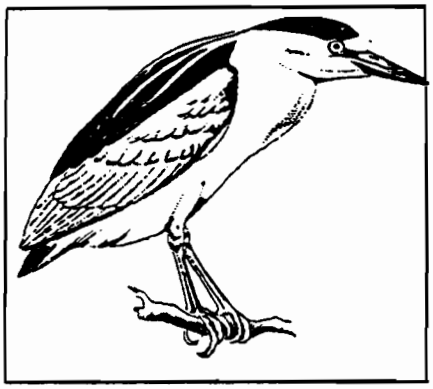
WADERS

Tricolored heron



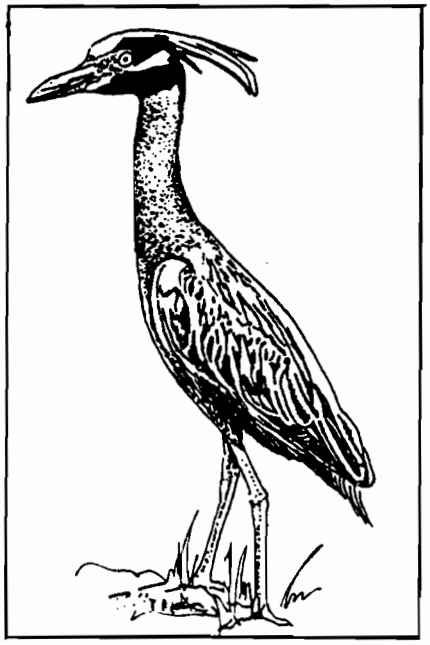
- 2 feet tall
- Usually found near Gulf Coast
- Dark with white belly
- Actively pursues prey
- Often feeds in deeper water than other herons
- Predator on small fish and shrimp
- Consumption rate roughly 0.25 lb/day

Black-crowned night heron



- 2 feet tall; chunky body
- Short thick neck; thick bill
- Dark back; white undersides
- Roosts in trees during day; feeds at night
- Flies to feed at dusk
- Common predator on small fish
- Consumption rate roughly 0.3 lb/day

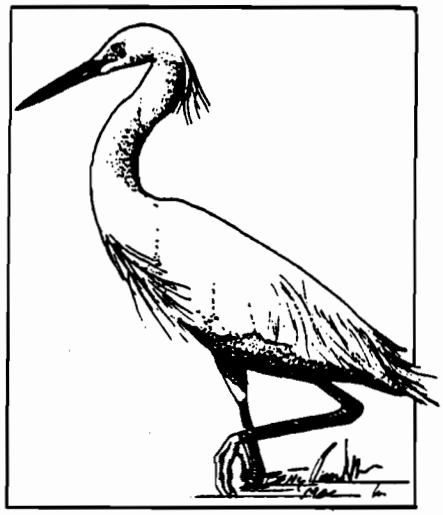
Yellow-crowned night heron



- 2 feet tall; chunky body
- Short thick neck; thick bill
- Adult gray with whitish crown and cheek patch
- Immature brown, spotted and streaked
- Stalks prey in shallows
- More active during day than black-crowned night heron
- Locally common predator on crawfish and uncommon predator on small fish
- Consumption rate roughly 0.3 lb/day

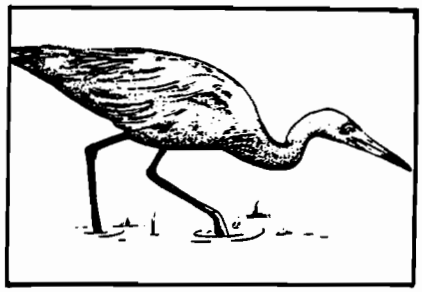
WADERS

Snowy egret



- 2 feet tall; white body
- Black bill; black legs
- Yellow feet
- Stalks prey in shallows
- Actively chases prey
- Common predator on small fish and crustaceans
- Attracted to ponds with sick fish
- Consumption rate roughly 0.2 lb/day

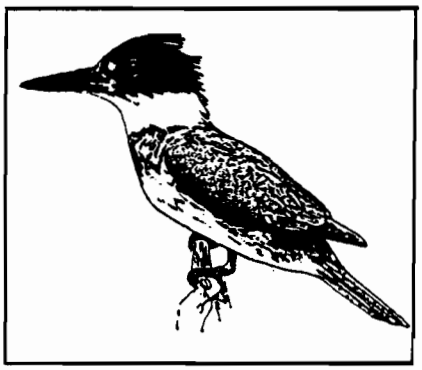
Little blue heron



- 2 feet tall
- Adult slate-blue with dark legs
- Immature white with bluish bill and greenish legs
- Stalks prey in shallows
- Common predator on small fish
- Consumption rate roughly 0.2 lb/day

FLIERS

Belted kingfisher

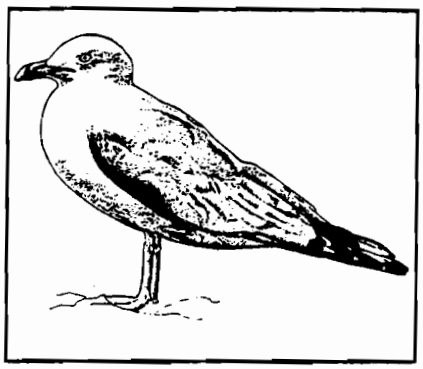


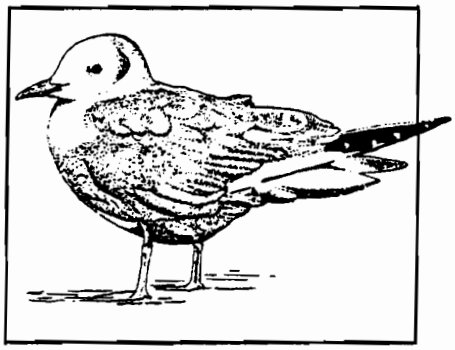
- 1 foot long; solitary
- Grayish; big-headed
- Plunges into water
- Often hovers before plunging
- Common predator on small fish
- Consumption rate roughly 0.15 lb/day

FLIERS

Gulls

Gulls--include herring, ring-billed, laughing and Bonaparte's--ring-billed gull (top) and Bonaparte's gull (bottom) shown here.

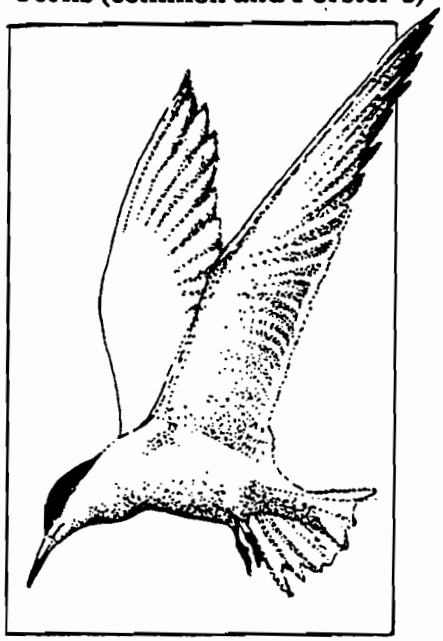




- 1 to 2 feet long
- Adults white with top of wings and back dark; herring and ring-billed with black wingtips; laughing has solid dark wingtips; Bonaparte's with white wingtips
- Bonaparte's wingspan two-thirds that of ring-billed
- Ring-billed and Bonaparte's more likely to be found inland from Gulf Coast
- Immatures varying degrees of brown
- Alight on water and take small, often sick or dead, fish off surface
- Laughing gulls are common predators on shrimp
- Eat supplemental shrimp food
- Consumption rate roughly 0.15 to 0.3 lb/day

Terns (common and Forster's)

- 1 foot long; forked tail
- Grayish back; white undersides
- Graceful fliers; often hover before plunging into water
- Black cap as adults
- Mostly minor predators on small fish
- Consumption rate roughly 0.1 lb/day



FLIERS

Osprey

- "Fish hawk;" 2 feet long
- Wingspan 4.5 to 6 feet
- Head largely white but with large black patch through cheeks
- Hovers and then dives feet first into water
- Usually uncommon predator on market-size fish
- Consumption rate roughly 0.5 lb/day

Acknowledgment

Thanks to Keith H. Remy, Publications Coordinator, and Betty Mac Wilson, artist, of Mississippi State University, for avian predator illustrations in this bulletin.

This publication was supported in part by a grant from the United States Department of Agriculture, Number 89-38500-4516, sponsored jointly by the Cooperative State Research Service and the Extension Service.

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