

## CALIFORNIA

### Fewer 'bluebills' on the bay

### Loss of habitat, toxic elements hurt 2 species of scaup

- Glen Martin, Chronicle Environment Writer

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They're out there right now off the shores of San Francisco Bay, sometimes rafting up in large groups to resist the wind, sometimes diving beneath the gray water to feed: big, handsome ducks with distinctive, two-toned plumage.

These are scaup, and to Bay Area birders they're as much a symbol of winter as bare trees and hard frost. At one time, they were one of the most common ducks on the nation's waterways. But today, "bluebills" have fallen on hard times, their numbers dwindling from habitat destruction and toxic elements and compounds in their food.

Still, the bay remains one of the few places they can be seen in large numbers.

"They're beautiful ducks," said Bruce Bajema, a board member of the Marin Audubon Society. "I've seen some really huge rafts this season out on San Pablo Bay. And Richardson Bay is also a good place to see them." Scaup can also be seen along the East Bay shoreline from Richmond to Emeryville.

There are two species of scaup -- greater and lesser -- and to the layperson they are virtually identical, save for size. The lesser scaup, appropriately enough, are somewhat smaller than the greater scaup. Both species are declining in numbers, probably as a result of habitat destruction and toxic elements in the aquatic food web, biologists say.

In winter, lessers tend to prefer fresh water while greater generally frequent salt water, though overlap is common. Most of the scaup on San Francisco Bay proper are greater, although lessers casually intermingle with them. Farther up into the Sacramento-San Joaquin River Delta and the Central Valley, lessers predominate.

Their trip to the Bay Area is long and arduous. Scaup nest in the boreal forests of Canada and Alaska, right below the Arctic Circle.

After hatching, the nestlings gorge on the boreal forest's abundant mosquito larvae and other invertebrates until they are fully fledged. Then they and their parents start the long trip south. They usually begin arriving in the Bay Area in November and stay until March.

About half the scaup on the Pacific Flyway -- which extends from Canada to Mexico -- spend the winter on San Francisco Bay, feeding on the abundant mollusks that burrow in the estuary's mud.



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"In a typical year, we'll see between 50,000 and 100,000 scaup on the bay," said John Takekawa, a research wildlife biologist with the U.S. Geological Survey. "This winter it looks like about 75,000."

That sounds like a lot -- but in historical terms, the current population is low.

"Right now there are about 3.4 million scaup in North America," said Scott Yaich, the director of conservation programs for Ducks Unlimited, a hunters' group that buys and preserves wetlands. "That represents a significant downturn. The continental high for scaup was in 1972, when we had 8 million. It's a worrisome trend. Ideally, we'd like to see continental populations of at least 6 million."

The downturn has been especially severe for lesser scaup in the North American interior, said Yaich.

Part of the problem, he said, is habitat loss -- wetlands are disappearing in the Midwest.

"Some recent evidence also indicates the lessers may not be finding enough invertebrates to eat in the wetlands that remain," Yaich said. "The composition (of the wetlands) is changing, with more of them supporting fish than in the past. The fish seem to be eating the invertebrates the scaup normally feed on."

Habitat destruction in the boreal forest -- mainly from oil and gas development -- is also a major problem for scaup, particularly lessers, said Fritz Reid, a wildlife biologist with Ducks Unlimited's California office.

The problem isn't quite as dire for greater, Reid said, because they are not as picky as lessers when it comes to nesting regions.

"They'll nest in the forests, but unlike lessers, they'll also go to the tundra, where the habitat disruptions haven't been as severe," he said.

But greater have their own specific problems -- mainly toxic elements and chemicals, which could be playing havoc with their reproductive success, he said.

In San Francisco Bay, said Takekawa, greater scaup feed heavily on Asian clams, an invasive bivalve that now lives in bay sediments in extraordinary numbers. The clams concentrate the toxic element selenium in their tissues to a much higher degree than native mollusks, Takekawa said. Selenium enters the bay from refinery effluent and drain water from San Joaquin Valley croplands.

Not all is gloom and doom for the bay's scaup. Though selenium levels in Asian clams remain elevated, they have declined slightly from the 1980s -- presumably because of tighter discharge regulations.

Major habitat protection programs are under way in the boreal forest, Reid said.

"We have agreements in the pipeline to exclude some very large areas from oil and gas development and logging," Reid said. "One, in the north McKenzie River Valley, is about 3 million acres. It's an incredible place -- full of waterfowl, including scaup."

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## SCAUP

Appearance and habits: Often seen in huge rafts on San Francisco Bay during winter. The drakes are particularly handsome, with white flanks, gray backs and dark heads with a purple or green gloss.

Migration: Nest in the boreal forests of northern Canada and Alaska and migrate to the United States for winter. Greater scaup frequent coastal areas; lesser scaup tend to favor inland areas with fresh water.

Feeding: Avid consumers of aquatic invertebrates, particularly shellfish.

Threats: Numbers have dropped from 8 million in the early 1970s to 3.4 million today, a result of habitat destruction in their breeding grounds and contamination of their food sources.

Source: Peterson Field Guide to Western Birds

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A male greater scaup preens on San Francisco Bay. Scaups, whose numbers are declining, winter on the bay and in the Central Valley. Chronicle photo by Paul Chinn



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A wintering female scaup floats on the bay near Berkeley. Chronicle photo by Paul Chinn



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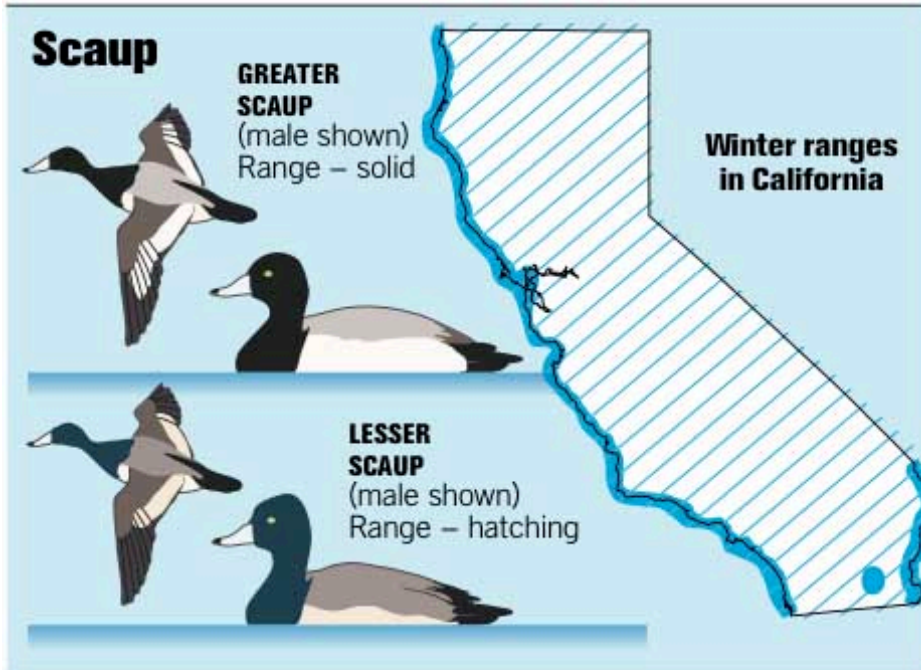
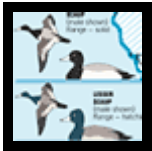
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Scaup. Chronicle graphic by John Blanchard



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JOHN BLANCHARD / The Chronicle

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