



Chasing a Giant

STORY & PHOTOGRAPHS BY JONATHAN SLAGHT

Primorye is a place of giants. In this sliver of Russia wedged between China, North Korea, and the Sea of Japan, Amur tigers and brown bears lumber past one another with mutual suspicion and fear. In the river valleys of the Sikhote-Alin Mountains, huge Steller's and white-tailed sea eagles squabble greedily over waves of salmon that come to spawn.





Above the feeding birds, the crowns of colossal Korean pine and Japanese poplar jut through the canopy and sway heavily in seasonal typhoon winds. Occasionally, storms are severe enough to snap tree trunks, and the exposed surfaces begin to decay from the top down. This process creates cavities that become ideal nest sites for one of Primorye's least-known giants, Blakiston's fish owl.

Probably the largest owl in the world, Blakiston's fish owl stands nearly two-and-a-half feet tall and can weigh more than nine pounds. An extraordinarily shy bird, it hunts for fish by walking along riverbanks. Local fishermen lucky enough to catch a glimpse of one sometimes report they have seen a person or even a bear crouching by the water.

The Blakiston's fish owl population is small—about 5,000 birds—and most live in Russia. About 100 remain in Japan. Historically, they occurred in China and perhaps North Korea, but no one has tried to inventory those populations recently.

Fifteen years ago, Primorye's walls of mountains and rivers and forests shielded fish owls from manmade threats. Now, trucks loaded with timber hurry through the owls' territories en route to global markets. Conservation has not been able to keep pace with demands for lumber, and fish owls desperately need a comprehensive protection plan.

Those same natural barriers that once protected the fish owls also impede scientific research. Our understand-

ing of the birds' natural history is rudimentary at best. Only a handful of the heartiest Russian biologists have ever attempted to study them. Sergei Surmach, an energetic ornithologist with Vladivostok's Institute of Biology and Soil Science, has chased these brown ghosts around Primorye's rivers for more than ten years. In 2005, Sergei and I began collaborating on a telemetry project to collect ecological information that will be the basis for the conservation plan.

Fish owls have finicky habitat requirements and very low reproductive rates—classic characteristics of an endangered species. The raptors live in pairs year-round in old-growth river valleys. In a corner of the world where temperatures easily dip to minus 40 degrees Fahrenheit in winter, the birds depend on the seemingly improbable presence of unfrozen river patches to fish for their prey. These openings occur where natural hot springs release warm water into river channels.

As you can imagine, there is not a lot of open water, so fish owls raise one chick—on very rare occasions two—

The Blakiston's fish owl lives in the rugged river valleys of Russia's remote Sikhote-Alin Mountains (pages 44–45). Little is known about the huge, brown “ghost” (above). The author (opposite, with an adult female) and his Russian partners are radio-tracking fish owls to learn about their needs so they can fashion a plan for their survival.

Probably the largest owl in the world, Blakiston's fish owl stands nearly two-and-a-half feet tall



every other year. Once they leave the nest, juveniles linger in their home territory for up to a year and a half before striking out to find their own space. This is an exceptionally long maturation time for any bird, four times longer than the pre-dispersal period of great horned owls in North America. After they disperse, young fish owls do not breed until their third year.

Secretive and difficult to locate, fish owls are easiest to find by their tracks in the snow after they wander along the water's edge in search of fish. So, while Primorye may be best to visit in autumn, when the biting insects have waned and the sun has burned off the coastal fog, most of our work is done in the dead of winter, when frigid air and deep snow make for uncomfortable field conditions.

Supported by WCS-Russia, Sergei and I are the first conservationists in the country to capture and release fish owls for study. We have made several discoveries that may help save this raptor. For example, scientists previously assumed that fish owls stayed on the same four- to six-mile stretches of river regardless of season. Our initial data suggest that these owls triple the sizes of their territories after the river ice melts and the spring waters recede. Possibly, they follow spawning salmon and other fish to the upper reaches of smaller rivers, and so are not tethered to one location as they are in winter. That means conservation efforts must protect the birds' entire habitat.

In winter 2007-'08, we documented more unexpected behavior. After weeks of finger-numbing fieldwork near Amgu, where we caught three fish owls, we drove 100 miles south to Terney, home to the office of WCS's Siberian Tiger Project. The previous year, we had captured four fish owls there in three different river territories: We named them the Serebryanka female, the Tunsha male, and the Faata pair, after the areas in which we found them.

With the snow cover still thick, we descended into the Tunsha River valley, a gnarly mash of old-growth forest, river channels, tangled brush, and thorns. The owls were wise to choose territory in the heart of this mess. The terrain made it impossible to sneak up on the nest tree. When I exhaled, my breath seemed afraid of the cold and clung to my beard in icy clumps. My cheeks were frozen by the wind, which streamed unrelenting from the Sea of Japan only a few miles away. As we neared the far side of the valley, a flash of brown appeared, then disappeared into the crown of a pine stand. We were close. The Tunsha male had flushed to a safer distance. His form melted into the brown and gray lattice of branches. But with binoculars, I could see his erect ear tufts and fierce yellow eyes focused on me. As we walked closer, he flushed again, this time out of sight but certainly still watching.

Males that guard nests are free to move around, but incubating females tend to sit firm. We once observed a nest-



**The easiest way
to find fish owls
is by the tracks
they leave in the snow
as they wander along
the water's edge
in search of fish.**





ing female so devoted to her clutch that she sat motionless all night in a raging blizzard. By morning she was hidden beneath eight inches of snow, with just her tail protruding. Now, the Tunsha female was equally reluctant to flush and did so only when we stood right under the giant poplar nest tree. As she took wing, the gleam from her yellow leg band jolted me. This was not the Tunsha female from the previous year, but the Faata female. What was she doing here? Another presumption about fish owls was that they are devoted to mate and territory. But the Faata female had apparently abandoned both.

As the sun slipped behind the central ridge of the mountains, the Faata female joined the Tunsha male in the duet call of a territorial pair. Meanwhile, the Faata male called alone and unanswered some five miles upriver. Where was the female that lived in Tunsha in 2007? Was this territory change an anomaly or common behavior among fish owls?

There is much we don't know about these birds, but the information we have collected represents the richest database for this species. We understand that a healthy economy is conducive to effective conservation. So we are working with the logging industry—the central vertebra in Primor-

ye's economic backbone—to develop a plan that meets the needs of both owls and local people.

Indeed, based on our initial results we are making headway with one group. Timber harvesters were using large and rotting poplars—economically of little value but essential for nesting fish owls—to build makeshift bridges over waterways. These bridges usually last one season before they are pulled downriver by spring and summer floods, so more poplars are cut to replace them the next year. After a consultation in April 2008, one company agreed to avoid targeting poplars for this purpose.

Logging companies in Primorye are interested in Forest Stewardship Council certification, which rewards sustainable harvest and increases timber marketability, so their cooperation is mutually beneficial. Rational use of Primorye's river bottoms will protect not only fish owls but also breeding habitat for numerous other endangered birds, including the scaly-sided merganser, mandarin duck, and long-billed plover. This makes the fish owl an excellent umbrella species for old-growth riparian forest communities in Primorye. The results of our research will help fish owl populations remain healthy in these forests, with local fishermen continuing to arrive home with stories of shadowy giants taking flight from the banks of Primorye's wild rivers.

Fresh fish owl tracks (opposite, bottom) lead into the Saiyon River. The carcass of a Keta salmon, dropped by bickering sea eagles, hangs abandoned in a tree. Fish owl pairs produce only one to two chicks every other year (above, the second egg never hatched).

Jonathan Slaght is a PhD candidate at University of Minnesota. For more on Blakiston's fish owl, visit www.fishowls.com. For the bird's calls, visit www.rareearthtones.org.