Chilkat Province

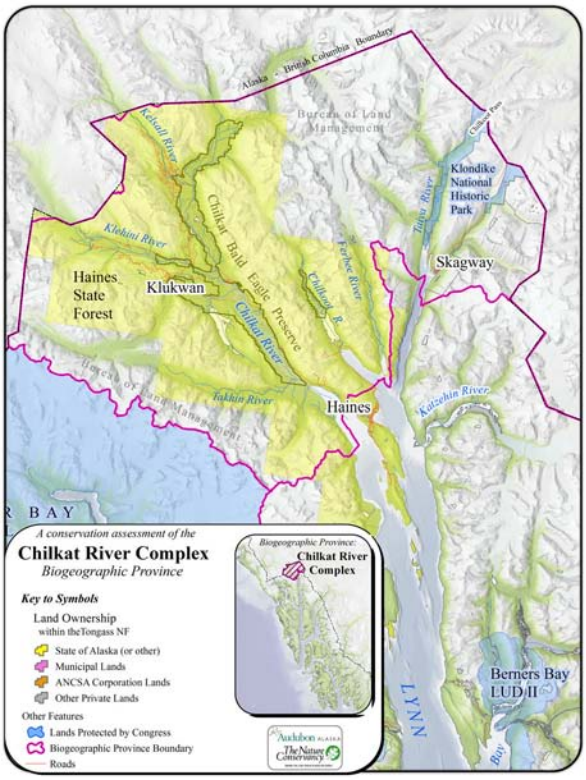

FIG 1. Chilkat Province.

The Chilkat Province lies at the head of Lynn Canal and the end of the Inside Passage (Fig 1). Tall ridge systems rise northwestward from the community of Haines (population 1,800). The watersheds within this province are drained by large glacial rivers. For its size, this province is extraordinarily rich in rivers. Seven glacially-fed rivers drain the highlands along the Canadian border. From west to east they are: Takhin, Tsirku, Klehini, Kelsall, Chilkat, Taiya and Skagway. Two other large rivers–the Chikoot and Ferebee–originate from glaciers and snowfields contained entirely within the province. Among the transboundary rivers, the Kelsall crosses the border to interior Canada at the lowest elevation, thus has the strongest potential to serve as a wildlife corridor. The merged rivers of the Chilkat complex drain about 1,800 mi^2 (4,660 km^2); about a fifth of this terrain is in Canada. These aggrading rivers create some of the most extensive and active alluvial plains in Southeast.

The Chilkat Province includes a mix of land jurisdictions including state, private, and federal. This province has the highest proportion of development lands (88%) in Southeast with only 2% legislatively protected and another 10% administratively protected.

The Chilkat Province has the lowest precipitation in Southeast. Skagway gets 26 in (62 cm) per year. Haines gets about double that amount, but only a few miles northwestward up the Haines Highway this drops to interior-like conditions.

The overlap of coastal and interior floras produces Alaska's highest vascular plant species richness. Community types are also diverse; fire-influenced white birch/pine (*Betula papyrifera-Pinus contorta*) forests (Fig 2) are unique within Southeast. Subalpine fir (*Abies lasiocarpa*) is the dominant conifer at White Pass. Even at sea level near Haines and Skagway, the "rainforest" feels distinctly different from the rest of Southeast. The term "productive old growth" or "POG" hardly applies in Chilkat Province. True old growth is limited mostly to the relatively moist Chilkoot and Ferebee drainages; elsewhere, the province is too dry and fire-influenced to develop the classic Southeast western hemlock (*Tsuga heterophylla*)/Sitka spruce rain forest.

The Chilkat River watershed is ranked as one of the highest value watersheds for salmon habitat in Southeast. The Chilkat River itself (ranked in the top 5 for all species combined) provides important spawning habitat for all five species of salmon plus steelhead.

FIG 2. "Fire forest" on the Haines Highway. Sitka spruce in foreground; lodgepole pine in center; paper birch in background. Prevalence of fire in the Glacier Bay rainshadow leaves essentially no old-growth coniferous forest in the greater Chilkat watershed. (Richard Carstensen)

Thousands of bald eagles congregate in late fall and early winter near Klukwan, drawn from hundreds of miles (km) away to a late run of chum (*O. keta*) salmon at a time when most other runs have ended. The cause of the late run is relatively warmer ground waters upwelling from the toe of the massive Tsirku River alluvial fan that keep channels open and accessible to spawning fish even in very cold air temperatures.

The riparian forest of the Chilkat and associated rivers provides some of the finest wildlife habitat in Southeast. The mix of cottonwood (*Populus balsamifera*) and spruce reflects the actively aggrading flood plain. Willow (*Salix spp.*), red-osier dogwood (*Cornus nuttallii*), and highbush cranberry (*Viburnam edule*) are important browse species for moose which are abundant here.

As with plants, this province has the highest mammal diversity in Southeast, reflecting the overlap of coastal and interior species; 38 species have been recorded. The only Southeast occurrence of collared pika (*Ochotona collaris*) is here, as well as an endemic species of weasel (*Mustela erminea alascensis*). Other mammals which occur in this province include brown and black bears, mountain goats (*Oreamnos americanus*), wolves, lynx, and wolverines (*Gulo gulo*).

Glacial rebound at nearly 1 in (2.54 cm) per year has created rapidly changing "uplift communities" at the heads of fiords such as Taiya Inlet (Figs 3, 4) and the Haines Airport area. In a landscape of steep, often unproductive granitic slopes, these lush uplift meadows and parklands are very important for wildlife.

FIG 3. The ephemeral gold rush town of Dyea at the head of Lynn Canal in 1898. High tides reached up to the townsite. Glacial rebound has been raising the land here about 1 in (2.4 cm) per year. (Mendenhall, USGS, AK Historical Library)

FIG 4. Repeat photo in 2005. A) With nearly 9 ft (3 m) of uplift since the 1898 photo, young spruces have advanced out onto the former townsite. B) Formerly bare flats in the foreground that floated ships on high tides are now lush uplift meadow. C) A former cottonwood forest is now mature spruce. D) A forest fire in about 1890 has come back in mixed spruce/pine/birch/willow forest. E) A campfire spread up the hillside in 1999. (Richard Carstensen)

For all peoples, historic and prehistoric, this province has served as the portal to the boreal interior. The Chilkat and Chilkoot Kwans controlled trade along these routes. Today, the tourism industry in Haines and Skagway profits from the same routes and passes.

The Chilkat River Critical Habitat Area consists of 4,800 acres (1,943 hectares) on the lower river near the confluence with the Tsirku River while the Alaska Chilkat Bald Eagle Preserve consists of 48,000 acres (19,425 hectares) overlapping the critical habitat and areas upriver and down river as well as the lower portions of the Klehini and Tsirku rivers (Fig 5). The 13,200-acre (5,342 hectare) Klondike Gold Rush National Park occurs in the Taiya and Skagway valleys. These are the only protected lands in the Chilkat Province.

Productive old growth does not occur in abundance in this province although nearly 20,000 acres (8,000 hectares) or about 13% of POG has been harvested here (Chapter 2, Table 5). Most of the timber harvest in this province has been on state forest lands (Fig 6). Less than 1% of large-tree stands in this province are protected in watershed-scale reserves, 10% are protected in sub-watershed reserves, and 89% are managed in the timber base (Chapter 2, Table 6).

Brown and black bear summer habitat is estimated at 60% of its original value in the Chilkat Province and 70% occurs on development lands (Chapter 2, Table 15). Only 1% occur in watershed reserves. Marbled murrelets nesting habitat is estimated at 90% of its original value but 90% occurs within lands available for development (Chapter 2, Table 10). There are 649 mi (1,039 km) of anadromous fish streams in this province (Chapter 2, Table 11). Thirty percent of riparian forests associated with anadromous fish have been harvested in the Chilkat Province and none occur in watershed reserves, although 32% occur in sub-watershed reserves (Chapter 2, Table 12). The Chilkat Province has the least habitat conservation protections of any province in Southeast and some fish and wildlife populations may face long-term conservation risks.

Forest types, historical logging, and roads are mapped within the Chilkat Province in Figure 7. Refer to the Arc Reader GIS database in Appendix C of this report to review detailed mapped information on location of large-tree stands, past timber harvest, roads, forest reserves, protected areas, and regions of core ecological values.

FIG 5. View NW over confluence of the Tsirku (fan in right foreground), Chilkat (left distance) and Klehini (left margin) rivers. Klukwan village in lower right. (John Schoen photo)

FIG 6. Low elevation view of recent alluvial fan logging on the Chilkat River in Haines State Forest upstream from Klukwan. Clearcut extends down to the river bank, and the transecting small anadromous tributary is buffered by less than a tree height. On the National Forest such alluvial surfaces can no longer be roaded or logged. (John Schoen photo)

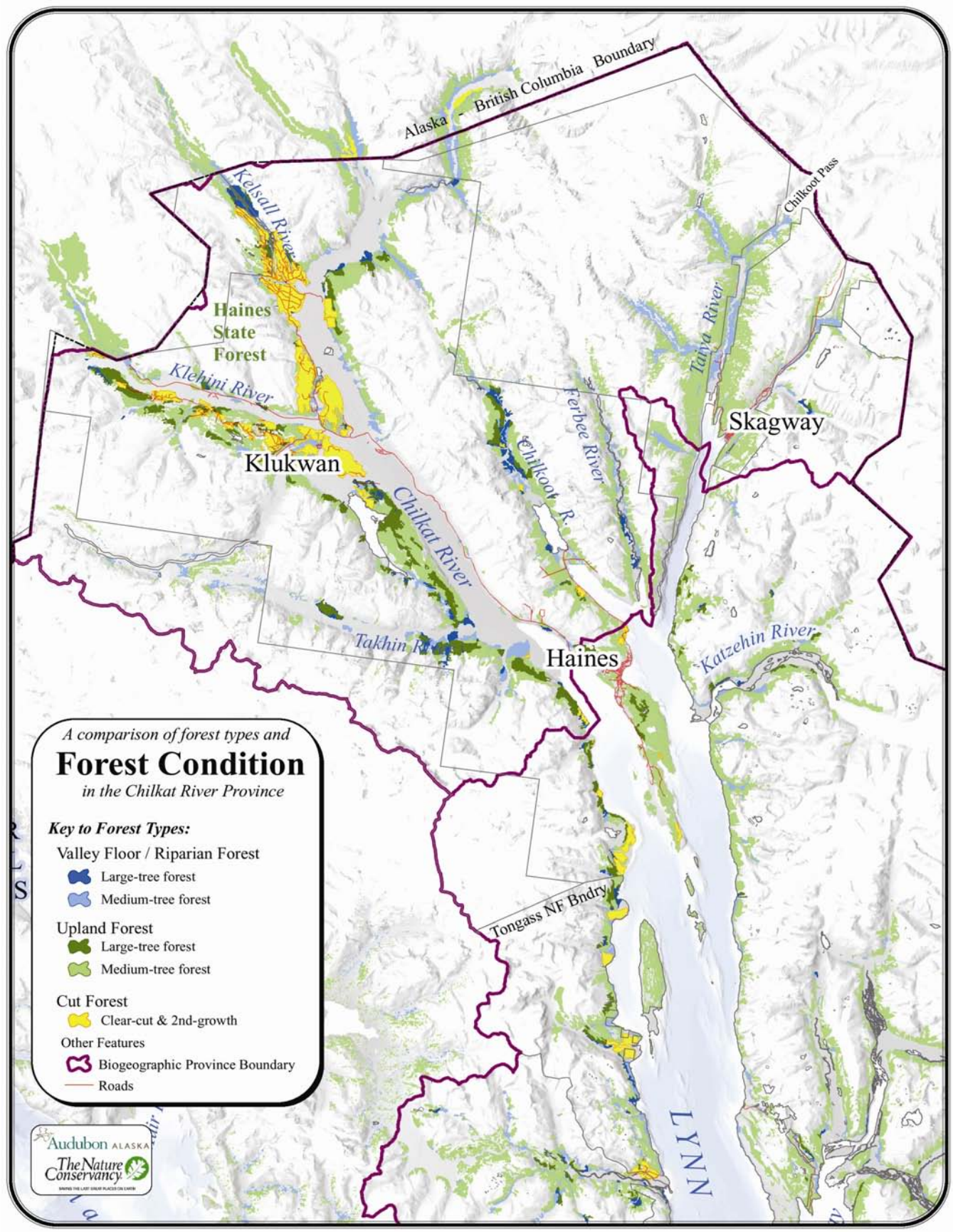

FIG 7. A comparison of forest types and conditions in the Chilkat Province of southeastern Alaska.