

Kingdom	Phylum	Class	Order	Family
ANIMALIA	CHORDATA	ACTINOPTERYGII	SALMONIFORMES	SALMONIDAE

<b>Scientific Name:</b>	<i>Hucho bleekeri</i>
<b>Species Authority:</b>	Kimura, 1934
<b>Common Name/s:</b>	
English – Sichuan Taimen	

### Assessment Information [\[top\]](#)

<b>Red List Category &amp; Criteria:</b>	Critically Endangered A2cd <u>ver</u> <u>3.1</u>
<b>Year Published:</b>	2012
<b>Assessor/s:</b>	Song, Z.
<b>Reviewer/s:</b>	Rand, P.S. & Weiss, S.
<b>Contributor/s:</b>	
<b>Justification:</b>	
<b>Criterion A: Population Reduction</b>	
<p>The IUCN criteria used to estimate the population size reduction for a species can include the following: direct observations, indices of abundance, declines in area of occupancy or extent of occurrence and/or quality of the habitat, actual or potential levels of exploitation, or effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.</p> <p>Since causes of decline are not completely understood, and threats have not ceased, we assessed status using criterion A2. No direct estimates for adult abundance or trends exists for the species. Reduction in population abundance, based on expert judgement, is suspected to have been in the range of 50–80% over the past three generations (based on A2c – an observed decline in area of occupancy (AOO), extent of occurrence (EEO),</p>	

and/or habitat quality; and A2d – actual or potential levels of exploitation). It is suspected that the population will decline by 50% in the next three generations (based on c, a projected decline in AOO, EOO, and/or habitat quality and d, actual or potential levels of exploitation).

Thus, the species qualifies for listing as CR A2cd.

#### **Criterion B: Geographic Range**

We estimated the total historic EOO to be less than 5,000 km<sup>2</sup> (based on Ding and Qing 1994). Current EOO is now estimated to be less than 100 km<sup>2</sup>. The species' range now consists of ≤ 5 locations (a), and in continuous decline (b) as measured by EOO (i), area and/or quality of habitat (iii) and number of mature individuals (iv).

This qualifies this species for listing as EN B1ab(i,iii,iv). Since it also qualifies for CR under criterion A2, the CR category has been used for this assessment.

#### **Criterion C: Current Population Size**

Very little data exist on absolute population sizes for this species. The number of mature individuals of the species is thought to be in the range of 2,000–2,500, and the population is estimated to be in continuous decline at a rate of at least 20% over the next two generation (34 years).

#### **Criterion D: Very Small or Restricted Population**

This species does not qualify for listing under this criterion.

#### **Criterion E: Probability of Extinction**

Not enough data exist to be able to estimate the probability of extinction for this species.

### **Geographic Range [\[top\]](#)**

<b>Range Description:</b>	Sichuan Taimen are confined to the headwaters of the Yangtze River, including the upper reaches of the Minjiang and Qingyi rivers in Sichuan Province, the upper and middle reaches of the Dadu River in Sichuan and Qinghai provinces, and the Xushui and Taibei rivers located in the upper reaches of the Hanjiang River at the southern foot of the Qinling mountain range in Shaanxi Province, China (Ding 1994, Ding and Qing 1994, Yue and Chen 1998).
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<b>Countries:</b>	ive: na (Sichuan)
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**Range Map:** [Click here to open the map viewer and explore range.](#)

### Population [\[top\]](#)

**Population:** No direct estimates for adult abundance or trends exist for the species. Reduction in population abundance, based on expert judgement, is suspected to have been in the range of 50–80% over the past three generations (based on observed decline in area of occupancy, extent of occurrence, habitat quality, and exploitation). This rate of decline is expected to continue into the future.

**Population Trend:**  Decreasing

### Habitat and Ecology [\[top\]](#)

**Habitat and Ecology:** Sichuan Taimen occur exclusively in freshwater, predominantly in brooks with sandy and gravel bottoms, narrow river bed, flowing water, high dissolved oxygen, and comparatively low water temperature in mountain areas. Sichuan Taimen grows to over 700 mm. The females mature at four years of age, while the males mature earlier (Ding and Fang 1995). However, the taimen reach sexual maturity at approximately two years of age in the upper Qingyi River (Zhou and Wu 1987). Although data are lacking to estimate generation time for this species, we assume a generation time of 17 years, as estimated for a related species (*Hucho taimen*). Spawning reportedly occurs from the middle of March to the middle of April, with some variability across different areas. The species spawns in narrowed or broad ranges of the brooks, and the spawning grounds are sandy and gravel water bottom in slow current. The spawning water temperature is 4–9°C. The ratio of female: male usually is 1:1 on the spawning grounds. Before spawning the parental fishes dig round or oval nests for laying eggs. The eggs are yellow, not sticky and about 3.5–4.5 mm in diameter (Zhou and Wu 1987, Ding and Fang 1995). Taimen are ferocious carnivorous fish, mostly feeding on Cladocera zooplankton and aquatic insects as juveniles (below 100 mm in body length). Adults switch to feeding on aquatic insects and other fish (Ding and Fang 1995, Yue and Chen 1998).

**Systems:** Freshwater

### Threats [\[top\]](#)

**Major Threat(s):** **Human intrusions/disturbance**  
Habitat loss from the construction of hydropower stations, erosion of soil due to deforestation, road construction, and

sand excavation.

#### **Biological resource use**

Illegal fishing: harvesting the mature parental fish during the spawning season, catching one-year-old young fish and using some very harmful fishing methods by poisoning, electrification and bombing.

### **Conservation Actions [\[top\]](#)**

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**Conservation Actions:** The following measures need to be taken to stem further losses and allow recovery for the species:

1. Prohibitions of hydropower stations in the main distribution range of the species in the tributaries of the upper streams of the Dadu River.
2. Restrictions of sand excavation at the spawning grounds.
3. Prohibitions of illegal fishing.
4. Enhancing the investigation of wild resources, habitats and spawning ecology.
5. Enhancing the study of artificial propagation.

**Citation:** Song, Z. 2012. *Hucho bleekeri*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on **19 October 2012**.

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