

Bream (*Abramis brama*)

Risk Screening Summary

Web Version – 10/17/2012



Photo: T. Østergaard

1 Native Range, Nonindigenous Occurrences, and U.S. Status

Native Range

Afghanistan; Andorra; Armenia; Austria; Azerbaijan; Belarus; Belgium; Bosnia and Herzegovina; Bulgaria; Croatia; Czech Republic; Denmark; Estonia; Finland; France; Georgia; Germany; Greece; Hungary; Iran, Islamic Republic of; Ireland; Italy; Kazakhstan; Latvia; Liechtenstein; Lithuania; Luxembourg; Macedonia, the former Yugoslav Republic of; Moldova; Montenegro; Netherlands; Norway; Poland; Romania; Russian Federation; Serbia; Slovakia; Slovenia; Spain; Sweden; Switzerland; Turkey; Turkmenistan; Ukraine; United Kingdom; Uzbekistan (Froese and Pauly 2010).

Nonindigenous Occurrences

Introduced for aquaculture and consumption in China in 1949 (Ma et al. 2003), in Italy (Gandolfi et al. 1991), in Kyrgyzstan (Savvaitova, 1999), and in Portugal (Bartley 2006).

Means of Introduction

From Froese and Pauly (2010): “Intentionally introduced for aquaculture”

U.S. Status

There are no known occurrences of *A. brama* in the United States.

2 Biology and Ecology

Taxonomic Hierarchy

From ITIS (2010):

Kingdom Animalia
 Phylum Chordata
 Subphylum Vertebrata
 Superclass Osteichthyes
 Class Actinopterygii
 Subclass Neopterygii
 Infraclass Teleostei
 Superorder Ostariophysi
 Order Cypriniformes
 Superfamily Cyprinoidea
 Family Cyprinidae
 Genus *Abramis*
 Species *Abramis brama*

Taxonomic Status: valid

Size, Weight, Age

From Froese and Pauly (2010):

“Max length : 82.0 cm TL male/unsexed; (Koli 1990); common length : 25.0 cm TL male/unsexed; (Chugunova 1959); max. published weight: 6,010 g (IGFA 1991); max. reported age: 23 years (Beverton et al. 1959).”

Length at first maturity unknown (Froese and Pauly 2010).

Environment

From Froese and Pauly (2010):

“Benthopelagic; potamodromous (Riede 2004); freshwater; brackish; pH range: 7.0 - 7.5; dH range: 15 - ?; depth range 1 - ? m (Vostradovsky 1973)”

Climate/Range

From Froese and Pauly (2010):

“Temperate; 10°C - 24°C (Baensch et al. 1991); 75°N - 40°N, 11°W - 73°E”

Distribution

From Froese and Pauly (2010):

“Europe and Asia: most European drainages from Adour (France) to Pechora (White Sea basin); Aegean Sea basin, in Lake Volvi and Struma and Maritza drainages. Naturally absent from Iberian Peninsula, Adriatic basin, Italy, Scotland, Scandinavia north of Bergen (Norway) and 67°N (Finland). Locally introduced in Ireland, Spain and northeastern Italy. In Asia, from Marmara basin (Turkey) and eastward to Aral basin. Introduced in Lake Baikal and upper Ob and Yenisei drainages.”

Short description

From Froese and Pauly (2010):

“Dorsal spines (total): 3; Dorsal soft rays (total): 9 - 10; Anal spines: 3; Anal soft rays: 23 - 30; Vertebrae: 43 - 45. The only species of the genus which can be diagnosed from other species of *Ballerus*, *Blicca* and *Vimba* by the following characters: mouth sub-inferior, which can be extended as a tube; lateral line with 51-60 scales; anal fin with 30½ branched rays; eye diameter about 2/3 of snout length in individuals larger than 10 cm SL; pharyngeal teeth 5-5; and base of paired fins hyaline or grey (Kottelat and Freyhof 2007). Caudal fin with 19 rays (Spillman 1961). Tall, laterally compressed body. Fins darker in adults. Anal fin base twice as long as the dorsal fin (Muus and Nielson 1999).”

Biology

From Froese and Pauly (2010):

“Inhabit a wide variety of lakes and large to medium sized rivers. Most abundant in backwaters, lower parts of slow-flowing rivers, brackish estuaries and warm and shallow lakes (Kottelat et al. 2007). Adults occur usually in still and slow-running waters where they travel in large shoals (Vostradovsky 1973).”

“Larvae and juveniles live in still water bodies, feeding on plankton. One to two years old juveniles move from backwaters to river to feed. In the absence of opportunity to leave backwaters, juveniles may adapt but have a slower growth and attain maturity at a smaller size. They also drift to brackishwater estuaries to forage when water level of flooded areas drops in lower reaches of large rivers. Foraging juveniles in brackish waters stay in lower parts of rivers to overwinter in freshwater (Kottelat et al. 2007).”

“Feed on insects, particularly chironomids, small crustaceans, mollusks and plants. Larger specimens may feed on small fish. Juveniles feed on zooplankton (Billard 1997). Able to shift to particle feeding or even filter feeding at high zooplankton abundance. Usually spawns in backwaters, floodplains or lakes shores with dense vegetation (Kottelat et al. 2007). Can survive out of the water for extended periods (Frimodt 1995).”

Human uses

From Froese and Pauly (2010):

“Fisheries: highly commercial; aquaculture: commercial; gamefish: yes; bait: usually”

“The flesh is bony, insipid and soft (Billard 1997). Marketed fresh or frozen. Eaten steamed, broiled, fried and baked (Frimodt 1995).”

Diseases

From Froese and Pauly (2010):

Black Spot Disease 1, Parasitic infestations (protozoa, worms, etc.)

Threat to humans

None listed in Froese and Pauly (2010)

3 Impacts of Introductions

Unknown

4 Global Distribution

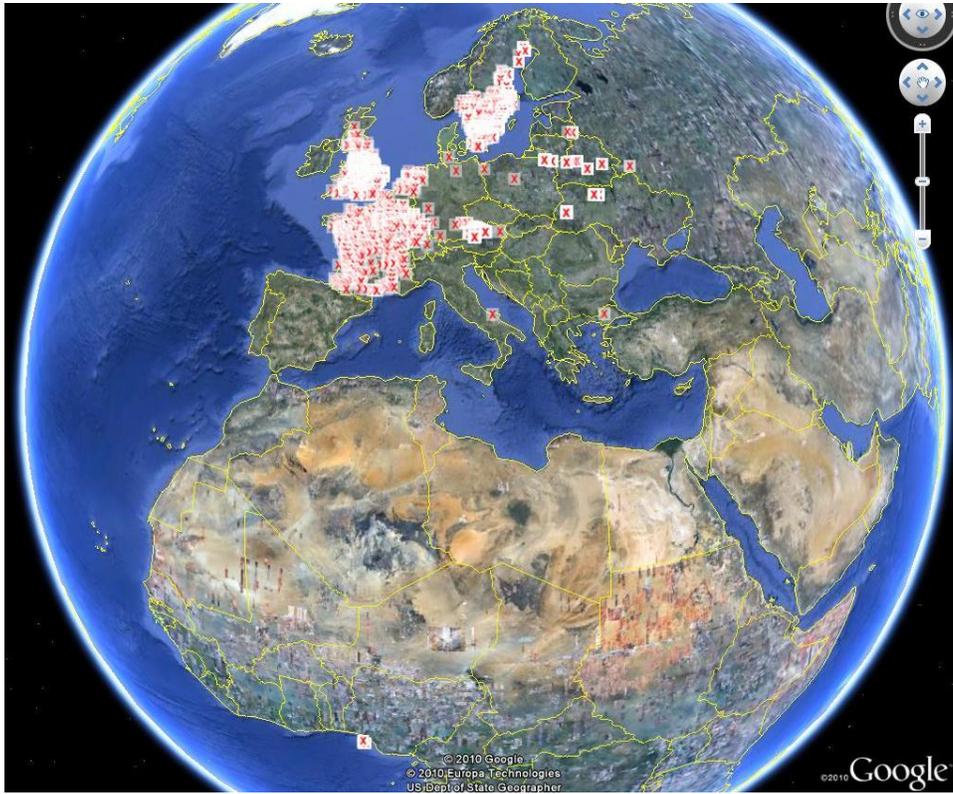


Figure 1 (above). Global distribution of *A. brama*. Map from Google Inc. (2011).

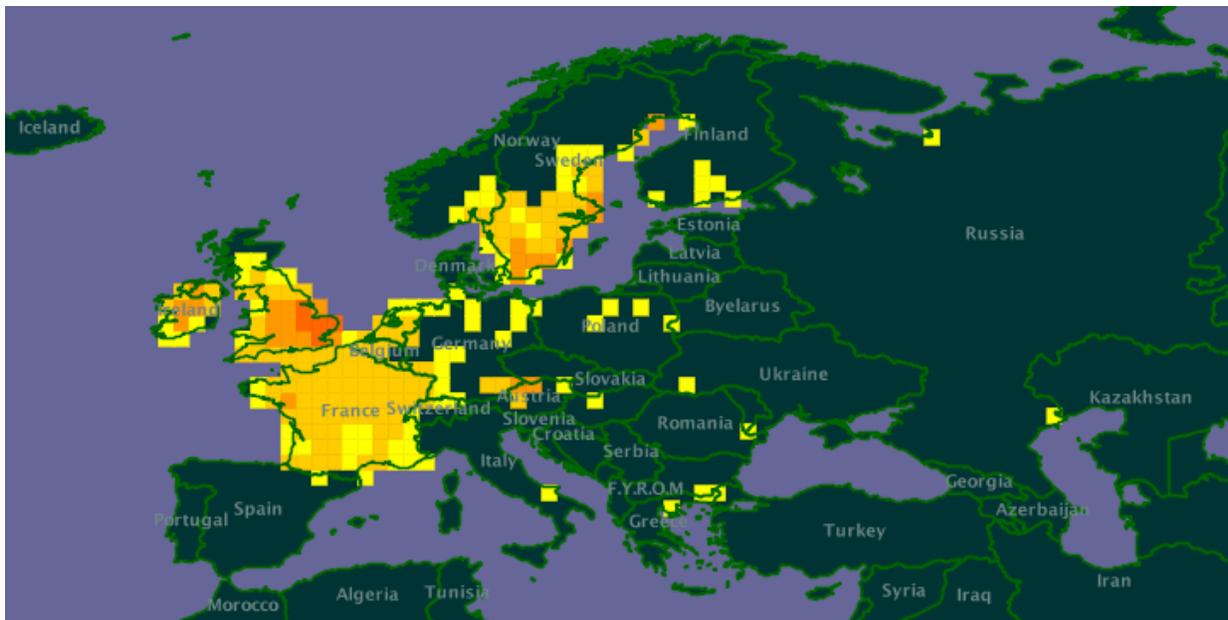


Figure 2 (above). Global distribution of *A. brama*. Map from GBIF (2010).

5 Distribution in the United States

There are no known occurrences of *A. brama* in the United States.

6 CLIMATCH

Summary of Climate Matching Analysis

The climate match (Australian Bureau of Rural Science 2010; 16 climate variables; Euclidean Distance) was high in most of the country. Very high matches were found in the Great Lakes region, the central and western plains states, and the western interiors of Washington, Oregon, and California. Climate 6 match indicated that the continental United States has a high climate match. The range for a high climate match is 0.103 and greater; the climate match of *A. brama* is 0.673.

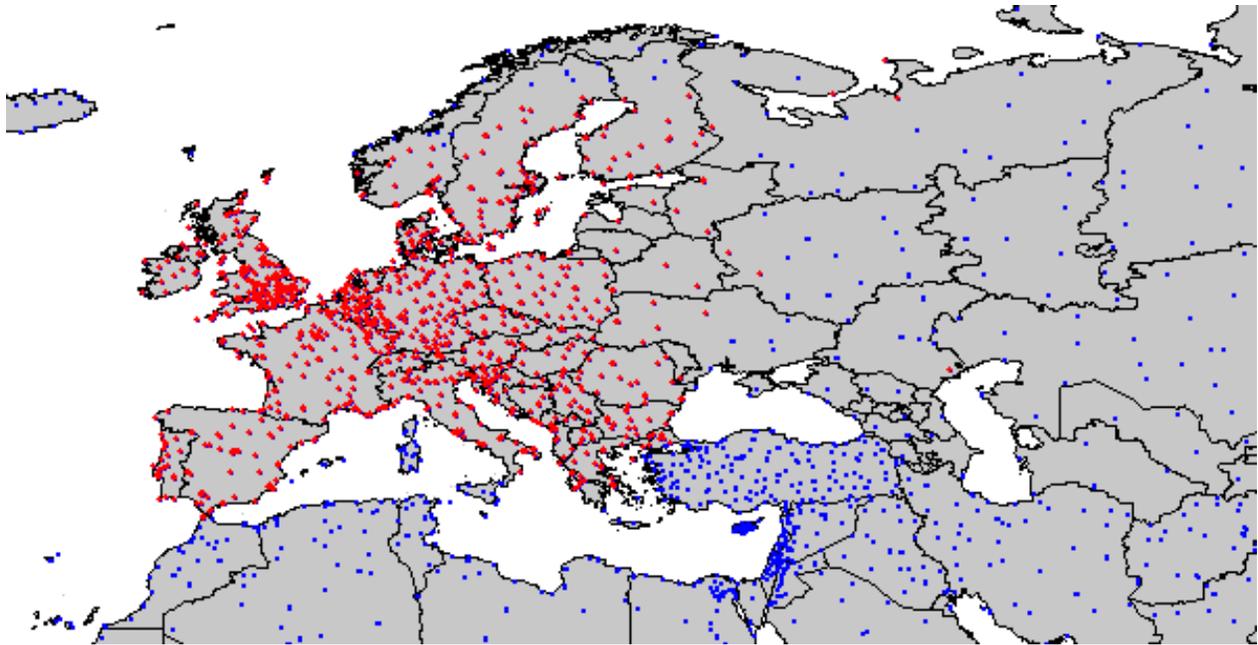


Figure 3 (above). CLIMATCH (Australian Bureau of Rural Science 2010) source map showing weather stations selected as source locations (red) and non-source locations (blue) for *A. brama* climate matching. Source locations from GBIF (2010) and Froese and Pauly (2010)

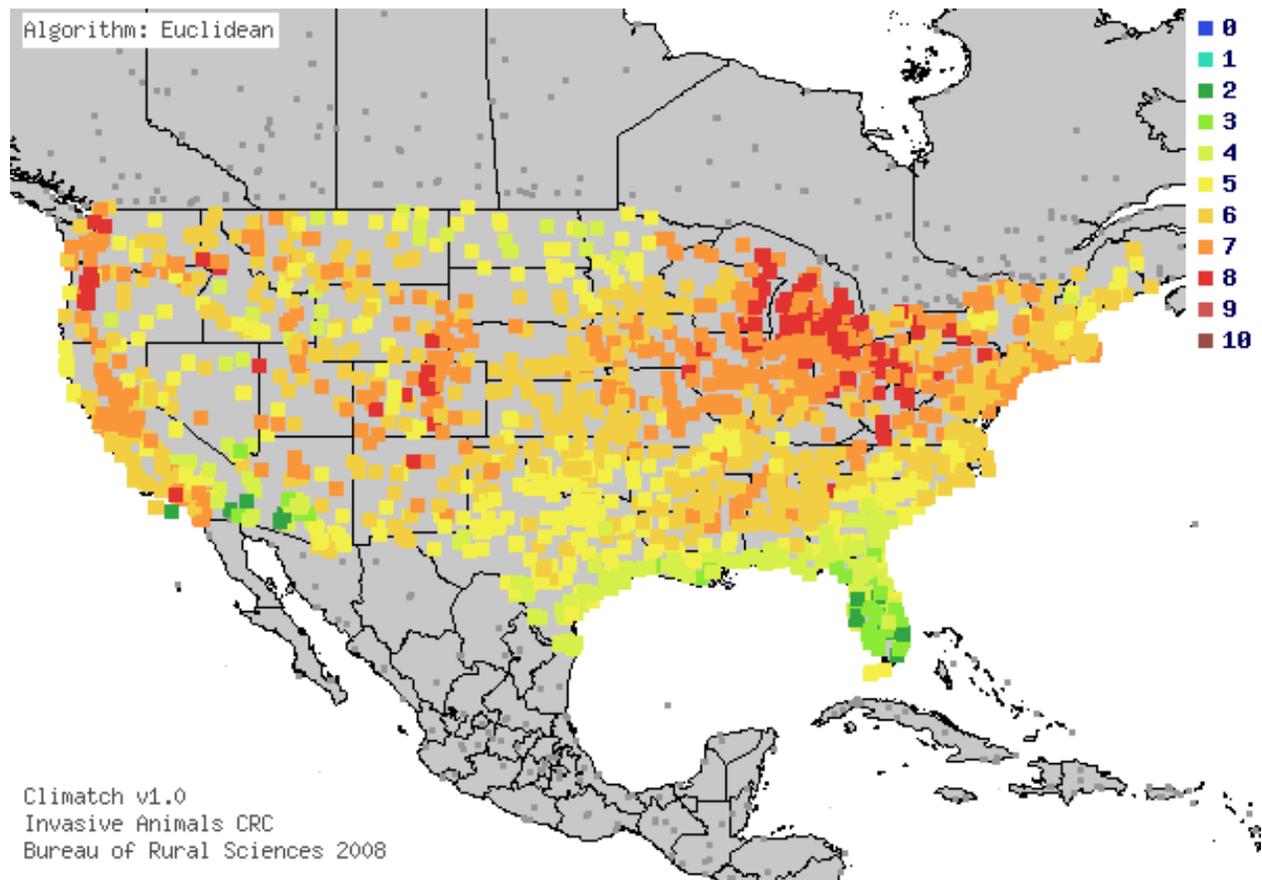


Figure 4 (above). Map of CLIMATCH (Australian Bureau of Rural Science 2010) climate matches for *A. brama* in the continental United States based on source locations reported by GBIF (2010) and Froese and Pauly (2010). 0= Lowest match, 10=Highest match.

Table 1 (below). CLIMATCH (Australian Bureau of Rural Science 2010) climate match scores

CLIMATCH Score	0	1	2	3	4	5	6	7	8	9	10
Count	0	0	20	53	206	369	682	525	124	0	0
Climate 6 Proportion =	0.673		(High)								

7 Certainty of Assessment

Peer-reviewed literature on the biology, ecology, and distribution associated with *A. brama* as well as information on its potential invasiveness is limited. More information and research on this species will be needed to strengthen the certainty of this assessment. The risk level is therefore uncertain, and the certainty of this risk is low.

8 Risk Assessment

Summary of Current U.S. Status

Bream have been introduced almost solely as an aquaculture species. However, there have been no adverse effects reported as a result of these introductions. The unintentional introduction into Spain has researchers encouraging further scrutiny of the possible impacts of this species after introduction (Benejam et al. 2005). Likely impacts of this species will remain unknown without further study.

Assessment Elements

- **History of Invasiveness (Sec. 3):** Low
- **Climate Match (Sec. 6):** High
- **Certainty of Assessment (Sec. 7):** Low
- **Overall Risk Assessment Category:** Uncertain

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

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10 References Quoted But Not Accessed

Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.

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