New South Wales

THREATENED SPECIES CONSERVATION ACT 1995 No 101

Notice of Final Determination and Amendment of Schedule 3 to Act

The Scientific Committee established under the *Threatened Species Conservation Act 1995* has, in pursuance of Division 3 of Part 2 of that Act, made a final determination to insert the following threatening process in Schedule 3 to that Act and, accordingly, that Schedule is amended as set out in Annexure "A" to this Notice:

Predation by *Gambusia holbrooki* Girard, 1859 (Plague Minnow or Mosquito Fish) (as described in the final determination of the Scientific Committee to list the threatening process)

The final determination to insert this threatening process in Schedule 3 has been made because the Scientific Committee is of the opinion that predation by *Gambusia holbrooki* adversely affects two or more threatened species and it could cause species that are not threatened to become threatened.

Copies of the final determination may be inspected at:

The Information Centre (Level 1)
National Parks & Wildlife Service
43 Bridge Street
HURSTVILLE NSW 2220

and at all District Offices of the National Parks and Wildlife Service during business hours.

Signed at Sydney, this 5th day of January 1999.

Dr Chris Dickman

Chairperson
Scientific Committee

Annexure "A"

Schedule 3 to the *Threatened Species Conservation Act 1995* is amended by inserting in alphabetical order the following matter:

Predation by *Gambusia holbrooki* Girard, 1859 (Plague Minnow or Mosquito Fish) (as described in the final determination of the Scientific Committee to list the threatening process)

Annexure "B"

NSW SCIENTIFIC COMMITTEE

Final Determination

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list Predation by *Gambusia holbrooki* (Plague Minnow) as a KEY THREATENING PROCESS on Schedule 3 of the Act. Listing of Key Threatening Processes is provided for by Division 2 Part 2 of the Act.

The Scientific Committee has found that:

1. *Gambusia holbrooki* Girard, 1859 (previously known as *Gambusia affinis)* (Plague Minnow, also known as Mosquito Fish) is a small freshwater fish originally introduced into Australia in the 1920s. The fish was imported as an aquarium fish but some were released into creeks around Sydney, Melbourne and Brisbane.

2. During the Second World War a government sponsored campaign was initiated to spread *Gambusia holbrooki* into as many east coast waterways as possible, as a control agent for mosquitoes.

3. *Gambusia holbrooki* is an aggressive and voracious predator. Overseas research has documented its impact on fish, invertebrates and frogs. (Grubb,J.C. 1972. American Midland Naturalist 88, 102–8; Hurlbert, S.H., Zedler, J. & Fairbanks, D. 1972. Science 175, 639–41)

4. Recent research has documented that *Gambusia holbrooki* preys upon eggs and tadpoles of the Green and Golden Bell Frog, *Litoria aurea* (Morgan, L.A. & Buttermer, W.A. 1996. *Australian Zoologist* 30, 143–149, White, A.W. & Pyke, G.H. 1998 unpublished manuscript submitted to *Australian Zoologist).*

5. Other studies have demonstrated that *Gambusia* also preys upon *Litoria dentata* (Morgan & Buttermer *op.cit), Litoria lesueuri* (White & Pyke, *op.cit)* and *Limnodynastes peronii* (Webb, C. & Joss, J. 1997. *Australian Zoologist 30,* 316-26).

6. Presence of *Gambusia holbrooki* has been linked to the decline of *Litoria aurea,* the New England Bell Frog *Litoria castanea,* Southern Bell Frog *Litoria raniformis,* and the Southern Tablelands Bell Frog *(Litoria sp.*

7. Breeding by *Litoria aurea* is almost completely restricted to water bodies lacking *Gambusia holbrooki.*

8. In view of 3, 4, 5, 6 above the Scientific Committee is of the opinion that Predation by *Gambusia holbrooki* is a serious threat to the survival of *Litoria aurea* and *Litoria castanea,* both species listed as threatened under the Threatened Species Conservation Act, and to other species of frog, and that predation by *Gambusia holbrooki* is therefore eligible to be listed as a key threatening process because it adversely affects two or more threatened species and it could cause species that are not threatened to become threatened.

Dr Chris Dickman

Chairperson
Scientific Committee