



New South Wales

# Fisheries Management (General) Amendment (Listing Criteria) Regulation 2006

under the

Fisheries Management Act 1994

His Excellency the Lieutenant-Governor, with the advice of the Executive Council, has made the following Regulation under the *Fisheries Management Act 1994*.

IAN MACDONALD, M.L.C.,  
Minister for Primary Industries

## Explanatory note

The object of this Regulation is to prescribe criteria under sections 220F–220FB of the *Fisheries Management Act 1994* (*the Act*) for the listing of critically endangered species, endangered species, vulnerable species, endangered populations, critically endangered ecological communities, endangered ecological communities and vulnerable ecological communities.

The Minister has certified pursuant to section 220FD of the Act that:

- (a) the criteria are based on scientific principles only, and
- (b) any criteria for listing under the *Environment Protection and Biodiversity Conservation Act 1999* of the Commonwealth were given due consideration before this Regulation was made.

This Regulation is made under the *Fisheries Management Act 1994*, including sections 220F–220FB and 289 (the general regulation-making power).

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Clause 1

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**Fisheries Management (General) Amendment (Listing  
Criteria) Regulation 2006**

under the

Fisheries Management Act 1994

**1 Name of Regulation**

This Regulation is the *Fisheries Management (General) Amendment (Listing Criteria) Regulation 2006*.

**2 Commencement**

This Regulation commences on 29 September 2006.

**3 Amendment of Fisheries Management (General) Regulation 2002**

The *Fisheries Management (General) Regulation 2002* is amended as set out in Schedule 1.

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## Schedule 1 Amendment

(Clause 3)

### Part 11B

Insert after Part 11A:

### Part 11B Listing criteria

**Note.** This Part prescribes the criteria for a determination by the Fisheries Scientific Committee of the matters required to establish eligibility for listing in accordance with Part 7A of the Act:

- (a) of a species as a critically endangered species, endangered species or vulnerable species (see *Division 1*), or
- (b) of a population as an endangered population (see *Division 2*), or
- (c) of an ecological community as a critically endangered ecological community, endangered ecological community or vulnerable ecological community (see *Division 3*).

Division 4 provides for the interpretation and application of the prescribed criteria.

### Division 1 Criteria for listing of species

#### 340E Criteria for listing determinations by Fisheries Scientific Committee

(1) **Critically endangered species**

For the purposes of section 220F (2) of the Act, a species is facing an extremely high risk of extinction in New South Wales in the immediate future if, in the opinion of the Fisheries Scientific Committee, it meets the criteria specified for critically endangered species in this Division.

(2) **Endangered species**

For the purposes of section 220F (3) of the Act, a species is facing a very high risk of extinction in New South Wales in the near future if, in the opinion of the Fisheries Scientific Committee, it meets the criteria specified for endangered species in this Division.

(3) **Vulnerable species**

For the purposes of section 220F (4) of the Act, a species is facing a high risk of extinction in New South Wales in the medium-term future if, in the opinion of the Fisheries Scientific Committee, it meets the criteria specified for vulnerable species in this Division.

**340F Criteria—reduction in abundance, geographic distribution or genetic diversity**

- (1) It is observed, estimated, inferred or reasonably suspected that the species has undergone, or is likely to undergo, within a time frame appropriate to the life cycle and habitat characteristics of the taxon:
  - (a) for *critically endangered species*—an extremely large reduction in one or more of the following:
    - (i) an index of abundance appropriate to the taxon,
    - (ii) geographic distribution,
    - (iii) genetic diversity, or
  - (b) for *endangered species*—a very large reduction in one or more of the following:
    - (i) an index of abundance appropriate to the taxon,
    - (ii) geographic distribution,
    - (iii) genetic diversity, or
  - (c) for *vulnerable species*—a large reduction in one or more of the following:
    - (i) an index of abundance appropriate to the taxon,
    - (ii) geographic distribution,
    - (iii) genetic diversity.
- (2) The Fisheries Scientific Committee must have regard to the following in determining the extent of the reduction referred to in subclause (1):
  - (a) the rate of and trends in the reduction,
  - (b) the potential of the species to maintain relatively stable abundance under high levels of mortality,
  - (c) the ability of the species to recover rapidly from low numbers,
  - (d) the reproductive potential of the species in relation to the following:
    - (i) reproductive ecology and behaviour and the relationship of these to any threatening process or processes, and the probability of recruitment failure,
    - (ii) historical, anecdotal or scientific data suggesting a reduction in the production of eggs or progeny compared to the unexploited state, to an extent that the ability of the species to maintain viable populations has been compromised,

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- (iii) evidence of a reduction in the generation time and life span of the species relative to the unexploited state,
  - (iv) population density, and the significance of population density in the species' reproductive strategies,
  - (v) effective population size,
  - (e) other aspects of the life history and ecology of the species, including any of the following:
    - (i) age and growth patterns,
    - (ii) habitat types and usages,
    - (iii) susceptibility to disease,
    - (iv) obligate migration requirements,
  - (f) evidence of recovery from low numbers following the introduction of protection measures or changes to management strategies,
  - (g) the current management strategies in relation to life history and reproductive ecology,
  - (h) assessment of the probability of extinction,
  - (i) evidence of declining populations across the species range for wide ranging or naturally rare or uncommon species,
  - (j) whether the species is at the edge of its geographic distribution,
  - (k) restricted or disjunct populations of naturally rare and uncommon species,
  - (l) the status of the species outside the State as appropriate for the taxon,
  - (m) the precautionary principle, namely, that if there are threats of serious or irreversible damage to the species, lack of full scientific certainty should not be used as a reason for postponing measures to prevent that damage,
  - (n) other supporting information, including the following:
    - (i) expert advice,
    - (ii) anecdotal information where there is independent verification,
    - (iii) written evidence, especially of a historical nature,
    - (iv) any other corroborating evidence.

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### 340G    Criteria—threatening processes

- (1) For *critically endangered*, *endangered* and *vulnerable species*, there is, or there is observed, estimated, inferred or reasonably suspected to be, a historical, current or potential threatening process, or threatening processes affecting the species.
- (2) The Fisheries Scientific Committee must have regard to the following in determining the relevant extent of the effect of the threatening process or processes:
  - (a) the number and nature of the threatening processes,
  - (b) the potential for synergistic effects between threatening processes,
  - (c) the extent of the threatening processes relative to the geographic distribution of the species,
  - (d) the impact of the threatening processes on the diversity and quality of the species' habitat,
  - (e) the level of protection offered to the species within existing reserve systems, other forms of refuge or by current management strategies.

### Division 2      Criteria for listing of endangered populations

#### 340H    Criteria for listing determinations by Fisheries Scientific Committee

For the purposes of section 220FA (1) of the Act, a population is facing a very high risk of extinction in New South Wales in the near future if, in the opinion of the Fisheries Scientific Committee:

- (a) it is clearly defined, and
- (b) it satisfies any one or more of the following:
  - (i) it is disjunct or near the limit of its geographic range,
  - (ii) it is, or is likely to be, genetically, biologically, morphologically or ecologically distinct,
  - (iii) it is otherwise of significant conservation value, and
- (c) it meets the criteria specified in this Division.

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**3401 Criteria—reduction in abundance, geographic distribution or genetic diversity**

- (1) It is observed, estimated, inferred or reasonably suspected that the population has undergone, or is likely to undergo, within a time frame appropriate to the life cycle and habitat characteristics of the taxon, a very large reduction in one or more of the following:
  - (a) an index of abundance appropriate to the taxon,
  - (b) geographic distribution,
  - (c) genetic diversity.
- (2) The Fisheries Scientific Committee must have regard to the following in determining the extent of the reduction referred to in subclause (1):
  - (a) the rate of and trends in the reduction,
  - (b) the resilience of the population in relation to current or potential threatening processes,
  - (c) the ability of the population to recover rapidly from low numbers,
  - (d) the reproductive potential of the population in relation to the following:
    - (i) reproductive ecology and behaviour and the relationship of these to any threatening process or processes, and the probability of recruitment failure,
    - (ii) historical, anecdotal or scientific data suggesting a reduction in the production of eggs or progeny compared to the unexploited state, to an extent that the ability of the species to maintain viable populations has been compromised,
    - (iii) evidence of a reduction in the generation time and life span of the species relative to the unexploited state,
    - (iv) population density, and the significance of population density in the species' reproductive strategies,
    - (v) effective population size,
  - (e) evidence of recovery from low numbers following the introduction of protection measures or changes to management strategies,
  - (f) the current management strategies in relation to life history and reproductive ecology,

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- (g) assessment of the probability of extinction,
- (h) evidence of declining abundance across the population's range for wide ranging or naturally rare or uncommon species,
- (i) other aspects of the life history and ecology of the population, including any of the following:
  - (i) age and growth patterns,
  - (ii) habitat types and usages,
  - (iii) susceptibility to disease,
  - (iv) obligate migration requirements,
- (j) restricted or disjunct populations of naturally rare and uncommon species,
- (k) the precautionary principle, namely, that if there are threats of serious or irreversible damage to the population, lack of full scientific certainty should not be used as a reason for postponing measures to prevent that damage,
- (l) other supporting information, including the following:
  - (i) expert advice,
  - (ii) anecdotal information where there is independent verification,
  - (iii) written evidence, especially of a historical nature,
  - (iv) any other corroborating evidence.

**340J Criteria—threatening processes**

There is, or there is observed, estimated, inferred or reasonably suspected to be, a historical, current or potential threatening process, or threatening processes affecting the population, having regard to the following:

- (a) the number and nature of the threatening processes,
- (b) the potential for synergistic effects between threatening processes,
- (c) the extent of the threatening processes relative to the geographic distribution of the population,
- (d) the impact of the threatening processes on the diversity and quality of the population's habitat,
- (e) the level of protection offered to the population within existing reserve systems, other forms of refuge or by current management strategies.



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### Division 3 Criteria for listing of ecological communities

#### 340K Criteria for listing determinations by Fisheries Scientific Committee

(1) **Critically endangered ecological communities**

For the purposes of section 220FB (1) of the Act, an ecological community is facing an extremely high risk of extinction in New South Wales in the immediate future if, in the opinion of the Fisheries Scientific Committee:

- (a) it is defined by species occupying a particular area, and
- (b) it meets the criteria specified for critically endangered ecological communities in this Division.

(2) **Endangered ecological communities**

For the purposes of section 220FB (2) of the Act, an ecological community is facing a very high risk of extinction in New South Wales in the near future if, in the opinion of the Fisheries Scientific Committee:

- (a) it is defined by species occupying a particular area, and
- (b) it meets the criteria specified for endangered ecological communities in each of the other clauses in this Division.

(3) **Vulnerable ecological communities**

For the purposes of section 220FB (3) of the Act, an ecological community is facing a high risk of extinction in New South Wales in the medium-term future if, in the opinion of the Fisheries Scientific Committee:

- (a) it is defined by species occupying a particular area, and
- (b) it meets the criteria specified for vulnerable ecological communities in each of the other clauses in this Division.

#### 340L Criteria—reduction in ecological function, geographic distribution or genetic diversity

(1) It is observed, estimated, inferred or reasonably suspected that the ecological community has undergone, or is likely to undergo, within a time frame appropriate to the life cycle and habitat characteristics of the component species:

- (a) for *critically endangered ecological communities*—an extremely large reduction in one or more of the following:
  - (i) ecological function,
  - (ii) geographic distribution,

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- (iii) genetic diversity, or
  - (b) for *endangered ecological communities*—a very large reduction in one or more of the following:
    - (i) ecological function,
    - (ii) geographic distribution,
    - (iii) genetic diversity, or
  - (c) for *vulnerable ecological communities*—a large reduction in one or more of the following:
    - (i) ecological function,
    - (ii) geographic distribution,
    - (iii) genetic diversity.
- (2) The Fisheries Scientific Committee must have regard to the following in determining the extent of the reduction referred to in subclause (1):
  - (a) the rate of and trends in the reduction,
  - (b) the resilience of the ecological community in relation to current or potential threatening processes,
  - (c) evidence of recovery of the ecological community following the introduction of protection measures or changes to management strategies,
  - (d) assessment of the probability of extinction,
  - (e) the precautionary principle, namely, that if there are threats of serious or irreversible damage to the ecological community, lack of full scientific certainty should not be used as a reason for postponing measures to prevent that damage,
  - (f) other supporting information, including the following:
    - (i) expert advice,
    - (ii) anecdotal information where there is independent verification,
    - (iii) written evidence, especially of a historical nature,
    - (iv) any other corroborating evidence.

**340M Criteria—threatening processes**

- (1) For *critically endangered*, *endangered* and *vulnerable ecological communities*, there is, or there is observed, estimated, inferred or reasonably suspected to be, a historical, current or threatening process, or threatening processes affecting the ecological community.

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- (2) The Fisheries Scientific Committee must have regard to the following in determining the relevant extent of the effect of the threatening process or threatening processes:
- (a) the number and nature of the threatening processes,
  - (b) the potential for synergistic effects between threatening processes,
  - (c) the extent of the threatening processes relative to the geographic distribution of the ecological community,
  - (d) the impact of the threatening processes on the diversity and quality of the ecological community's habitat,
  - (e) the level of protection offered to the ecological community within existing reserve systems, other forms of refuge or by current management strategies.

#### **Division 4 Interpretation**

##### **340N Application of Division**

- (1) This Division applies for the purposes of the interpretation and application of the criteria prescribed by this Part.
- (2) Use in a provision of this Division of the term "population" does not limit the operation of the provision to Division 2 and use of the term "species" does not limit the operation of a provision to Division 1.

##### **340O Geographic distribution**

- (1) Geographic distribution is the area or areas, or the volume of occupancy, in which a species, population or ecological community occurs, excluding cases of vagrancy in species.
- (2) This may be assessed by estimating:
  - (a) the extent of occurrence (the area of the total geographic range that includes all extant populations of the species or all extant occurrences of the ecological community), or
  - (b) the area or volume of occupancy (the area or volume within the total range that is currently occupied by the species or ecological community, that is, it excludes unsuitable and unoccupied habitat), or
  - (c) the area or volume of suitable habitat (the area or volume within the total range that includes occupied and unoccupied suitable habitat, but excludes unsuitable habitat).

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- (3) The scale at which a geographic distribution is assessed should be appropriate to the biology of the species (or component species in ecological communities), the nature of threats and available data.

**Note.** This clause applies in respect of Divisions 1, 2 and 3.

### 340P      **Effective population size**

Effective population size is the number of mature individuals of a species or population that contribute to the production of viable offspring and the maintenance of genetic variation.

**Note 1.** Effective population size is usually much less than total population size due to the presence of juveniles, old (senescent), diseased, moribund and other non-breeding individuals, uneven sex ratios, unsuitable environmental conditions for breeding and recruitment at some localities and in some years, variation between family sizes and fluctuating population sizes between generations.

**Note 2.** This clause applies in respect of Divisions 1 and 2.

### 340Q      **Ecological function**

- (1) Ecological function encompasses the ecological and evolutionary processes and interactions between living and non-living components of ecosystems and ecological communities at all spatial and temporal scales.
- (2) Reductions in ecological function may be indicated by the following:
- (a) a change to community structure,
  - (b) a change in species composition,
  - (c) the disruption of ecological processes,
  - (d) the invasion and establishment of exotic species,
  - (e) the degradation of habitat,
  - (f) the fragmentation of habitat,
  - (g) the declining abundance or distribution of constituent species within an ecological community.

**Note.** This clause applies in respect of Division 3.

**340R Relevance of matters and adequacy and accuracy of information**

If the Fisheries Scientific Committee is required to have regard to a particular matter, the Committee must consider the matter:

- (a) to the extent that it is relevant to the assessment of a proposed listing, and
- (b) to the extent that relevant information is available in relation to the matter, having regard to the adequacy and accuracy of the information.

**Note.** This clause applies in respect of Divisions 1, 2 and 3.