



National Fisheries Authority

FISHERIES MANAGEMENT ACT 1998

THE BARRAMUNDI FISHERY MANAGEMENT PLAN

The National Fisheries Authority, by virtue of the powers conferred by Section 28 of the *Fisheries Management Act 1998* hereby draws up the Barramundi Fishery Management Plan. This plan supersedes any previous plans and takes effect from the date of notification in the National Gazette.

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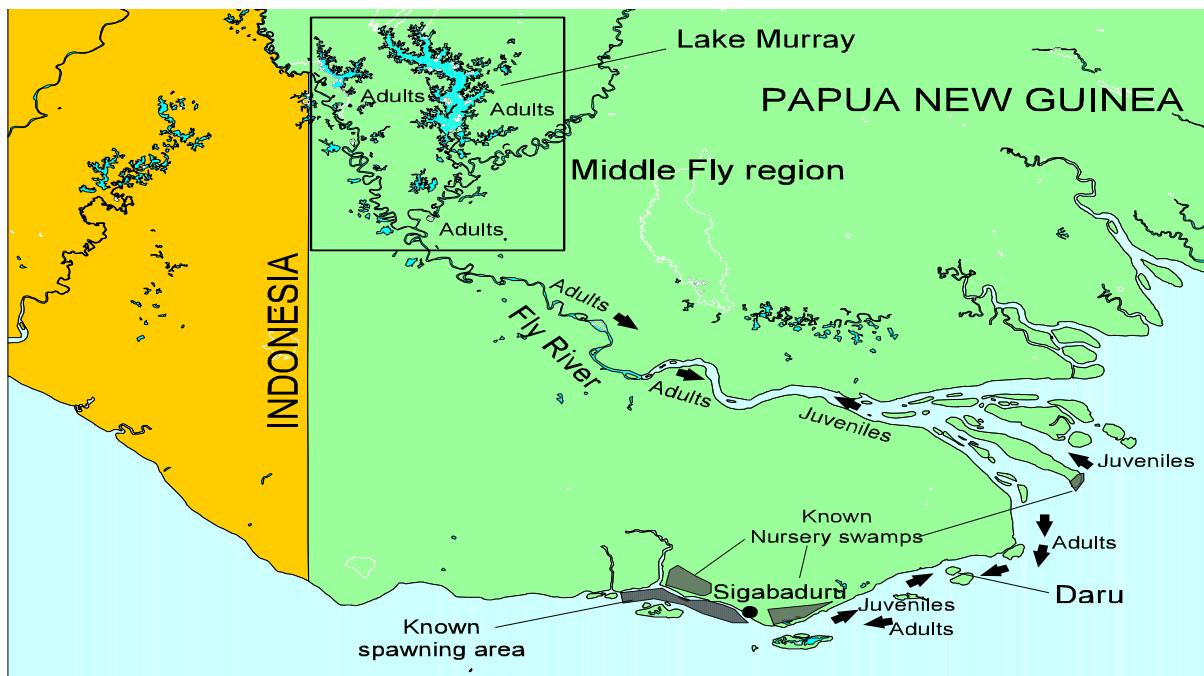
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1. Background - Description of the Fishery

In Papua New Guinea (PNG), Barramundi, *Lates calcarifer*, occurs naturally only in the southern part of the country, from Mullins Bay in the east to Irian Jaya/PNG border in the west. Barramundi are most abundant in rivers with substantial lake and swamp systems, and with extensive deltas, an obvious characteristic of the Gulf of Papua and the adjacent Papuan coast. The population is concentrated in the Gulf of Papua, with the deltaic systems of the Fly, Kikori and Purari Rivers. Except for the Mullins Bay population, the populations of barramundi in all areas of PNG genetically comprise one stock, with relatively large genetic mixing of fishes from the Gulf of Papua deltaic systems to those of Morehead and Bensbach Rivers to the west and Merauke River further west in Irian Jaya. The largest concentration of this genetically mixed and large population of barramundi is found in the Fly River system.

Studies on the life history and reproductive biology of barramundi show that it is a protandrous hermaphrodite that starts life primarily as males, with the proportion of females in the population increasing with length. Males mature at about 4 years old and typically become females at about 7 years of age (0-4 years juvenile fish, 4-7 years males fish and 7 + years mostly females). Barramundi is a migratory fish that spawns in the sea between Sigabaduru Village and PNG/Irian Jaya border (Map below) and move into inland freshwaters to grow. This life history pattern shows that the fish has greater vulnerability to fishing activities during the seasonal growth and spawning migrations (peak spawning migration between October and November) to a relatively restricted area; thus management of the barramundi should focus on the protection of the juveniles and the large breeding females.

Map of the Western Province showing major juvenile and adult barramundi movements. Arrows showing the movement of juveniles from known spawning area eastward and the adults downstream the Fly River and westward to the spawning area.



The commercial fishery for barramundi in PNG began in the late 1960s and early 1970s and was based in Western Province. Following government surveys around Daru in the early 1960s, the Western Province commercial barramundi fishery developed rapidly with processing and distribution centres being set up in the province. By 1969, there were three types of commercial operations established: (1) Daru-based artisanal coastal gillnet fishery targeting mainly adults that were migrating to breeding grounds west of Daru near Sigabaduru Village during September-January (late dry season-early wet season), (2) Refrigerated fishing vessels that operated their own gillnets of 150 and 175 mm mesh size and at the same time bought catch from artisanal fishers. These operations ceased in 1990 because of declining catches, and (3) Village-based freezers of 5 tonnes capacity set up at selected villages in the middle Fly River and at the Fly River mouth regions. These were operated by village cooperatives that sold their catch to the Daru wholesalers or the refrigerated boats.

In the late 1980s barramundi ranked fourth among commercial fisheries in PNG in terms of total fish production and foreign exchange earnings. The fishery was important to coastal communities in Western Province because of the large number of artisanal fishers involved and the cash income generated in areas with few alternative sources of income. This export commercial fishery caught 200-300 tonnes of barramundi a year, with the majority of this being caught in the Daru area. However in the early 1990s the catches were as low as 4 tonnes from the Daru based fishery, which forced the commercial fishery to close. Since then only the artisanal barramundi fisheries in the coast and the middle Fly River have continued to operate. Other small-scale barramundi fisheries operate in other areas in PNG (Mullins Harbour and Gulf Province), but were distinctly smaller than the Western Province fishery.

Production by the coastal artisanal fishery has resumed in recent years, with catches up to 170 t annually. This is indicative of the recovering barramundi stock in the Western Province and the Gulf of Papua.

2. Application

- (a) The Barramundi Fishery Management Plan (BFMP) is prepared under the authority of, and in accordance with Section 28 of the *Fisheries Management Act 1998*.
- (b) This Barramundi Fishery Management Plan shall be cited as “the Plan” and “the Management Plan”.
- (c) The Management Plan applies to a species of the family Latidae, specifically the Barramundi *Lates calcarifer*.
- (d) The plan applies to the barramundi fishery and to all activities by way of “fishing” as defined in the *Fisheries Management Act 1998*, including gillnetting, beach-seining, line and lure fishing, and associated activities of selling, buying, processing and exporting.
- (e) The geographical area covered in the BFMP comprises the following areas:
 - i) Sea and Estuarine Areas: the sea and estuarine areas between the boundaries of coastal mainland Irian Jaya/PNG border to the border of Western and Gulf Provinces, and

- ii) Rivers and Lakes: the waters of the rivers and lakes of Western Province.

3. Interpretation

In this Plan, unless the contrary appears, each word or group of words has the same meaning, if any, as used in the *Fisheries Management Act 1998*, except where this differs as provided below:

“*Area Closure*” means the designation of a specific area where no fishing shall take place.

“*BMAC*” means the Barramundi Management Advisory Committee.

“*Beach Seine*” means an encircling or enclosing net deployed from the shore.

“*Coastal Areas*” means the area of sea bordering the land extending from the mouth of the Fly River westward to the PNG/Irian Jaya border.

“*Gill net*” means a net with various mesh sizes to catch barramundi. The top of the net is seized to a float or corkline and the bottom to a leadline. The fish are caught by the mesh of the net.

“*Growth Migration*” means the seasonal coastal movement of juvenile barramundi from the nursery grounds eastwards towards Daru, the mouth of the Fly River and into the Fly River system.

“*Licensed Collector Vessel*” means a licensed vessel involved in the taking of Barramundi, but not licensed to fish.

“*Mesh Size*” means the size of mesh when the net is taunt measured between the inner edges of two diagonally opposite knots. Mesh is measured in units of centimeters or inches

“*Reference Limit*” means a biological or fishery limit that should be the target for sustainability of the barramundi resource.

“*Spawning Migration*” means the seasonal movement of large groups of ready-to-spawn barramundi to the spawning grounds between Sigabaduru and Jarai Villages.

“*Total Allowable Catch*” means a total amount of catch by weight specified as allowed to be taken per year

“*Total Length*” means a distance between the snout and tail end.

4. Objectives

- (a) To protect the barramundi stock in the management area from depletion or stock decline.

- (b) To ensure sustainable fisheries development practices for the participation and benefit of traditional resource users.

5. Management Arrangement

- (a) The barramundi fishery will be managed through the formation of a Barramundi Management Advisory Committee (BMAC). This committee shall advise the Managing Director or the National Fisheries Board on the management of the fishery.
- (b) The BMAC shall comprise representatives of NFA, fishing industry, aquaculture, recreational fishing, Ok Tedi Foundation, local resource owners, and the Western Province Administration.
- (c) A BMAC shall not include any elected political office holders from the national and provincial government or person nominated for such office.

6. Management Measures

The following management measures set out in the Management Plan shall have the force of law upon notification in the National Gazette.

6.1 Licensing

- (a) Under this Plan, the following licence types shall be required in the barramundi fishery; fish buyers licence, fish export facility licence, fish storage facility licence and collector vessel licence.
- (b) Under this Plan, no licences shall be issued to non-citizen companies, individuals or foreign joint venture arrangements. Preference shall be given to licence applications from traditional resource owners.
- (c) All licence applications shall be endorsed by the Provincial Government before submission to the National Fisheries Board for approval.
- (d) All barramundi products for export shall be exported directly from the Province of origin. No product shall be moved to another Province for sale or export without clearance from the National Fisheries Authority.
- (e) Licensed exporters will be required to provide returns in a Barramundi Logbook to NFA detailing all purchases made during the month. Failure to do so may result in export not being authorised.
- (f) All approved licences are valid for one year and subject to renewal.
- (g) Licence holders may have their licences terminated if they breach licence conditions or provisions of the *Fisheries Management Act 1998* or *Fisheries Regulations 2000* or the Barramundi Fishery Management Plan.

6.2 Total Allowable Catch

- (a) A Total Allowable Catch (TAC) shall be set at 260 mt per annum (whole weight) for the areas in clause 2 e (i) & (ii).
- (b) If the catch from the Coastal Fishery exceeds 60% of the TAC in any one year then the TAC shall be subject to review.
- (c) NFA will close the fishery as soon as the TAC is reached.

6.3 Prohibitions

6.3.1 Fishing Prohibitions

- (a) A barramundi with a total length of less than 36 cm (14 inches) shall not be taken for sale or export.
- (b) The owners of a *licensed collector vessel* are prohibited from the act of catching barramundi at all times.

6.3.2 Gear Prohibitions

- (a) Gill nets and beach seine nets with mesh size greater than 15 cm (6 inches) are prohibited in catching barramundi.
- (b) A grace period of one (1) year is applied to net owners whose mesh sizes are more than 15 cm (6 inches) to meet clause 6.3.2 (a) from the date of gazettal of this Plan.
- (c) The use of gill and beach seine nets with mesh size between 6.35 cm (2.5 inches) and 12.7 cm (5 inches) is prohibited during the peak periods of juvenile recruitment, 1st March to 30th April in the coastal waters from Sui Village in the east to PNG/Irian Jaya border in the west.
- (d) The use of gill nets greater than 12.7 cm (5 inches) is prohibited during the peak spawning migration period, 1st September to 31st October in the coastal waters from Sui Village in the east to Buzi Village in the west.
- (e) NFA in consultation with all stakeholders may consider the option of putting prohibitions on line/lure fishing in future.

6.4 Area Closure

The main spawning and breeding grounds between Sigabaduru Village and PNG/Irian Jaya border shall be closed to commercial fishing during peak spawning periods, 1st October to 30th November each season (see Map).

6.5 Marketing Standards

Marketing standards shall continue to be based on the Fish Quality Control Standards drawn under Section 7 of the *Fisheries Management Regulation 2000*, and standards established by other relevant authorities.

6.6 Reporting

- (a) In accordance with Section 29 of the *Fisheries Management Act 1998*, licensed exporters and collector vessels are required to submit data on catch and effort, as well as marketing data, for the purpose of this Plan.
- (b) Logbook containing the information set out in Clause (a) must be submitted to NFA by the 21st day of each month.
- (c) Failure to submit the required reports within twenty-one (21) days, or submitting incorrect data, may result in the suspension or cancellation of the license.

7. Precautionary Approach to Barramundi Management

Precautionary approaches shall apply to the Barramundi Fishery in accordance with the following provisions:

- (a) NFA will take into account the reference limit of 260 mt per annum (whole weight).
- (b) The absence of adequate scientific information may not be used as a reason for postponing or failing to make measures to protect the target and non-target species in the fishery.

8. Recreational Fishing

- (a) This Management Plan recognizes recreational fishing of barramundi.
- (b) NFA will consult recreational and gamefishing companies or individuals for the provision of recreational catch records of barramundi for the purpose of this Management Plan.

9. Monitoring

- (a) A scientific observer/research program mutually agreed to by the industry, NFA and traditional resource owners will set up to monitor the fishery and to make recommendations for any relevant changes for improvement of the national management plan to achieve the objectives in Section 4. The industry will provide logistic support and other forms of assistance to implement the research program in relation to barramundi as well as other alternate fishery resources in the respective province.

- (b) NFA shall monitor the sale of gillnets within the management areas.
NFA shall confiscate the prohibited mesh size gill nets.
 - (c) In accordance to Section 7 of the *Fisheries Management Regulation 2000*, that it shall be a licence condition that the NFA shall monitor the Quality Control Standards that they are continuously adhered to, in the production, processing, storage and export of barramundi.
 - (d) NFA may work with all stake holders and other national and international institutions to carry out research and information gathering activities to allow refinement of the plan, particularly the conduct of resource surveys and assessments.

10. Amendments

The Authority shall keep this Management Plan under review as new information is obtained to meet its objectives.

Endorsed this _____ day of _____ 2003

day of

2003

Chairman

National Fisheries Board

Approved this _____ day of _____ 2003

day of

2003

Hon. Andrew Baing
Minister for Fisheries.