



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Land-based Aquaculture Permit Policy

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1. FOREWORD

This policy document applies to land-based aquaculture only. Class A and B aquaculture permits are not discussed in this document as they apply to intensive or extensive aquaculture undertaken on public waters (estuaries, ocean). This document should be read in conjunction with Regional Sustainable Aquaculture Strategies.

1.1 OBJECTIVES OF AQUACULTURE POLICY

In the context of aquaculture in NSW, Departmental policy will:

- a) promote the orderly development of a viable and professional aquaculture industry;
- b) streamline and make transparent the approvals process;
- c) promote environmental sustainability;
- d) ensure that the use and reuse of water meets environmental objectives;
- e) control the introduction, escape and culture of undesirable species;
- f) control the introduction of diseases and manage disease outbreaks; and
- g) guide and assist compliance with relevant Government acts and regulations.

1.2 DEFINITION OF AQUACULTURE

“Aquaculture” means:

- (a) cultivating fish or marine vegetation for the purposes of harvesting the fish or marine vegetation or their progeny with a view to sale, or
- (b) keeping fish or marine vegetation in a confined area for a commercial purpose (such as a fish-out pond),

but does not include:

- (c) keeping anything in a pet shop for sale or in an aquarium for exhibition (including an aquarium operated commercially); or
- (d) anything done for the purposes of maintaining a collection of fish or marine vegetation otherwise than for a commercial purpose; or
- (e) any other thing prescribed by the regulations.

2. AQUACULTURE AND NSW LEGISLATION

2.1 NSW DEPARTMENT OF PRIMARY INDUSTRIES LEGISLATION

In NSW, any person wishing to undertake commercial aquaculture must obtain an aquaculture permit from NSW Department of Primary Industries. There are other local and State Government authorities which must be consulted to determine whether other licenses or approvals are needed. All relevant approvals must be obtained before development of the aquaculture facility proceeds.

The *Fisheries Management Act 1994* is the relevant legislation in NSW (refer to Part 6 - Aquaculture Management). The *Fisheries Management (Aquaculture) Regulation 1995* sets out the terms and conditions under which the NSW aquaculture industry must operate. It also details the processes for obtaining a permit (and a lease if the proposed site is on State land or public water land).

2.2 NSW ENVIRONMENTAL PLANNING LEGISLATION

The *Environmental Planning and Assessment Act 1979* (and the *Environmental Planning and Assessment Regulation 2002*) are administered by the Department of Infrastructure, Planning and Natural Resources (DIPNR) through local councils and State Government agencies. This legislation is used to assess proposed aquaculture developments to ensure that they meet environmental standards. The land classification, siting, size and type of aquaculture development will determine potential effects on the environment.

DUAP are consulted for concurrence if the proposal involves areas of land covered by State Environmental Planning Policies (SEPP's), or where Director's requirements are needed for an Environmental Impact Statement (EIS).

DUAP developed Schedule 3 of the *Environmental Planning and Assessment Regulation 1994* which lists the criteria for intensive aquaculture proposals requiring an EIS under Part 4 of the *Environmental Planning and Assessment Act 1979*. The relevant criteria are:

- the site is located in areas of acid sulphate soils or above a watertable which is less than 3 metres below the surface, or;
- the development is larger than 2 ha or 40 ML capacity and is located in a 1:100 year flood zone or releases effluent to waterways (a waterbody, wetland or groundwater), or;
- the development is larger than 10 ha or 400 ML capacity.
- the proposal involves farming a species of fish not indigenous to NSW if the site is located within 500m of a waterway or on a floodplain (relates to either intensive or extensive aquaculture).

DUAP have also developed, 'Aquaculture in Land Based Facilities - EIS Guideline' to assist prepare an EIS. An EIS may also be required for an aquaculture proposal being assessed under Part 5 of the EP&A Act. In this case, consult 'Is an EIS Required?' DUAP 2nd edition 1996.

The Project Profile Analysis table of the Regional Sustainable Aquaculture Strategies also details the level of environmental assessment required for an aquaculture development. Where a regional strategy is in place (eg the North Coast Sustainable Aquaculture Strategy), it will supersede the *Environmental Planning and Assessment Regulation 1994*.

3. LANDBASED AQUACULTURE POLICY

3.1 OVERVIEW

Prior to 1980, aquaculture in NSW was represented by the oyster, trout and aquarium fish breeding industries. Given the world-wide push to supplement the wild harvest of fish and shellfish, a number of species with potential for aquaculture have been identified. Since 1980, other species have been trialed for commercial aquaculture production in NSW. Results for many species have been impressive. In 2003/04 the value of the NSW aquaculture industry was worth over \$51 million. In

addition to the large Sydney rock oyster industry, there are over 200 aquaculture farms covering land-based hatchery and grow-out facilities to culture a variety of fish, crustaceans, molluscs and algae.

The *Fisheries Management Act 1994*, introduced a classification system for aquaculture permits based on the intensity of farming. In addition to the traditional intensive aquaculture permit which is issued for constructed ponds with high stocking rates and feed input, there has been provision made to recognise that extensive aquaculture (no feed or nutrient input), often conducted in existing farm dams, can also be an important contributor to the aquaculture industry of NSW.

Aquaculture permits are not transferable, being issued to the operator of a facility. Aquaculture permits can be re-issued for a site upon application, providing the farm is operated under the original terms and conditions of the NSW Department of Primary Industries application and current policies and the Council Development Consent.

NSW Department of Primary Industries aims to promote a viable and environmentally sustainable aquaculture industry. Policies have been developed in relation to site selection, design of facilities, effluent control, translocation and culture of fish species, health management issues and general good aquaculture practice.

3.2 APPLICATION FOR AQUACULTURE PERMIT

The “Aquaculture Permit Application Guidelines For Land-based Aquaculture Farms” and application forms are available by contacting :

NSW Department of Primary Industries Aquaculture Administration Branch, Port Stephens Fisheries Centre, Locked Bag 1, NELSON BAY NSW 2316. Telephone (02) 4982 1232.

All application forms, policies and guidelines including the Regional Sustainable Aquaculture Strategies are also available on the DPI (Fisheries) website.

For more information visit the website: www.dpi.nsw.gov.au

3.3 CLASS C PERMITS - EXTENSIVE AQUACULTURE

3.3.1 BACKGROUND

Class C permits allow extensive aquaculture to be undertaken. By careful site and species selection and by ensuring that there is no nutrient input to dams/ponds or escape risks, there should be minimal impact on the environment from this activity. Limiting the stocking density of fish to a level that is sustained by natural feed in the dams/ponds will avoid problems potentially associated with intensive farming, e.g. poor water quality, effluent release or disease problems.

3.3.2 POLICY

- A. Class C permits may be assessed for western and eastern drainage sites.
- B. Class C permits may be approved for constructed ponds and existing constructed farm dams (mainly used for stock watering or irrigation), but not for billabongs or ephemeral lakes connected to natural waterways.
- C. Class C permits may allow the aquaculture of certain species outside their natural range as long as safeguards are in place to ensure they do not escape to natural waterways.
- D. There will be no nutrient input of either feed (e.g. pelletised feed) or fertiliser to the dams/ponds once full of water. Lining dams/ponds with hay, or planting crops into the bottom of dams/ponds may be allowed prior to utilising them for aquaculture.
- E. In off-river storages used for extensive aquaculture, there is to be no tail-water return (that may contain chemical residues) from agriculture activities to the storage.
- F. Class C permits may be issued for leased sites on an individual site basis, e.g. 1 site - 1 permit. The concept of issuing permits for leasing dams/ponds at multiple properties under different ownership is covered by Class E permits.
- G. There is no Class C permit for silver perch. The aquaculture of silver perch in farm dams or other extensive situations will not be permitted. Refer to the NSW Department of Primary Industries policy 'Aquaculture Permits for Silver Perch'.

POLICY FOR EASTERN DRAINAGE SITES

I. On the eastern drainage, the dams/ponds must be above the 1:100 year flood level.

J. On the eastern drainage, there are numerous species which may be considered for cultivation under a Class C permit. Examples include:

- Australian bass
- eel-tailed catfish
- salmonid species (rainbow/brown/brook trout and Atlantic salmon)
- yabbies
- golden perch
- eels (refer to the NSW Department of Primary Industries 'Eel Aquaculture Policy')

Species proposed to be cultured on the eastern drainage will be assessed on a case-by-case basis.

POLICY FOR WESTERN DRAINAGE SITES

K. On the western drainage, the dams/ponds must not be inundated by a 1:100 year flood.

L. On the western drainage, there are numerous species which may be considered for cultivation under a Class C permit. Examples include:

- Murray cod
- golden perch
- eel-tailed catfish
- salmonid species (rainbow/brown/brook trout and Atlantic salmon)
- yabbies

Species proposed to be cultured on the western drainage will be assessed on a case-by-case basis.

NOTES

1. The main concern of NSW Department of Primary Industries regarding Class C permits is containment of stock. A Class C permit may be approved for an existing farm dam located on or near an ephemeral stream providing provision is made to ensure that species stocked outside their natural range are prevented from escaping to waterways. Screening provisions for Class C permits may be required where there is concern of escape. The construction of new dams or ponds near waterways needs to be addressed in the approval process in consultation with DIPNR.
2. There is no provision to set an advised water budget for Class C permits. A number of Class C permits have been approved for yabby aquaculture despite being reliant only on rainfall catchment directly into the constructed ponds.

3. There are no provisions listed for retention of overflow water from ponds/dams in Class C fish farms. However, in the case of a farm that establishes a series of constructed ponds, recommendations may be made to this effect.
4. The potential for pollution of dams through exposure to contaminants must be considered e.g. spray drift, former use of surrounding site for agriculture, rainfall runoff from surrounding catchment area.
5. Given that extensive aquaculture potentially has low impact on the environment, the need for a Fisheries Officer to undertake a site assessment will be assessed on a case-by-case basis. The provision of topographic maps and photographs will usually suffice.
6. In some cases, proponents are using existing constructed farm dams with existing fish or crayfish stocks, without the need for stocking. Using existing stocks for extensive aquaculture is not recognised as an activity requiring development consent under s.110 of the *Environmental and Planning Assessment Act 1979*. In these instances approval of the activity may be made by NSW Department of Primary Industries following an environmental impact assessment and consideration of threatened species legislation.

3.4 CLASS D PERMITS - INTENSIVE AQUACULTURE

3.4.1 BACKGROUND

Class D permits authorise intensive aquaculture to be undertaken. Intensive aquaculture involves intervention in the rearing process of aquatic species to enhance production through increased stocking density, the addition of supplementary feed or nutrients, protecting stock from predators and control of diseases. To ensure viability and environmental sustainability more attention needs to be placed on water availability, water treatment/reuse, effluent retention, farm design and aquaculture practice.

Farm dams are water storages constructed for the primary purpose of stock watering.

They are not suitable for aquaculture because:

- they usually have inadequate water supply;
- in most cases they are not purpose built for aquaculture;
- they usually have no provision to prevent overflow and release of effluent and stock from the dam;
- organic matter can be washed into farm dams and this can lead to water quality problems such as oxygen depletion and turbidity (off-flavour of fish can result from poor water quality in freshwater dams);
- most dams have no outlet from the dam floor, so there is limited capability to purposefully drain and dry out the dam to kill off disease, or to allow work on the bottom of the pond to remove any build up of organic matter; and
- harvesting can also be a problem. Netting may not extract all the fish in a farm dam, and during harvest it is advisable to be able to remove the last 10cm of water from a pond in less than 1 hour to avoid stressing fish with poor water quality.

3.4.2 POLICY

- A. Class D permits will be assessed for eastern and western drainage sites.
- B. Class D permits within the boundaries of a Regional Aquaculture Strategy must be assessed under the Project Profile Analysis of that Strategy.
- C. Class D permits will be assessed for purpose built/constructed ponds (earthen, concrete, plastic lined), intensive tanks, raceways, aquaria and floating cages.
- D. Class D permits will not be approved for farm dams (rainfall catchment fed, susceptible to overflow, not purpose built - other reasons outlined previously). Large rural water storages e.g. irrigation supplies, may be assessed for Class D permits on a case-by-case basis.
- E. Intensive grow-out and effluent storage facilities must not be constructed in natural waterways.
- F. Intensive facilities must have a reliable supply of good quality water, 40

ML/ha/yr is the recommended minimum water budget required for intensive freshwater pond culture.

- G. The water supply and the site must be free from contamination (e.g. free from excessive nutrient loads, domestic sewage effluent or agricultural pesticides/herbicides).
- H. Class D permits for a privately owned or leased property will be assessed for aquaculture permit approval subject to policy criteria.
- I. Class D permits will not be assessed for multiple privately owned or leased properties.
- J. Class D permit facilities must have appropriately sized screens placed on all pond/tank/raceway outlets to prevent the escape of fish to waterways.
- K. Intensive facilities must be able to be isolated for disease treatment and quarantine.

POLICY FOR EASTERN DRAINAGE SITES

- K. For all freshwater fish species; constructed ponds, intensive tanks, raceways, aquaria and effluent storage facilities must be constructed above the 1:100 year flood level.
- L. Only estuarine and marine fish species which are indigenous to NSW may be farmed on sites below the 1:100 year flood level on the eastern drainage. Such proposals will be assessed on a case-by-case basis (See Appendix for list of examples of indigenous species).
- M. For other (non-indigenous) estuarine or marine species which are cultured on the eastern drainage, constructed ponds and effluent storage facilities must be above the 1:100 year flood level.

POLICY FOR WESTERN DRAINAGE SITES

- N. For freshwater species; earthen ponds, recirculation tanks, raceways, aquaria and effluent storage facilities must be constructed so that they are not inundated by a 1:100 year flood.
- O. For those species not endemic to the catchment (eg estuarine and marine species); earthen ponds, intensive tanks, aquaria and effluent storage facilities must be above the 1:100 year flood level.

EFFLUENT CONTROL AND DISPOSAL

Freshwater Effluent

- P. Provision must be made to prevent effluent being released to waterways for all freshwater species with the exception of trout in certain circumstances (site specific).
- Q. For silver perch and for eels, effluent ponds must be constructed to contain

twice (2x) the volume of the largest culture pond.

- R. Effluent retention facilities may be required for species other than silver perch or eels e.g. ponds or levy banks may need to be constructed to ensure effluent is not released to waterways.
- S. Intensive tank systems may use irrigation in an approved way to dispose of freshwater waste-water, but provision must be made for effluent storage in instances when rainfall prevents the ability to irrigate.

Brackish-Marine Effluent

- T. Effluent can be released from ponds into estuaries or marine waters with approval from relevant authorities, such as the EPA. Appropriately designed treatment systems and water discharge volume measuring equipment need to be incorporated in the design.
- U. Release of effluent from intensive tank/raceway systems to estuarine or marine waters will be considered on a site specific basis but in most cases pre-treatment will be required on-site to remove suspended solids and dissolved nutrients. Appropriately designed treatment systems and water discharge volume measuring equipment need to be incorporated in the design of farms that discharge back to estuarine or marine waters.
- V. Effluent arising from inland saline water production will be retained and where appropriate treated on-site. It will not be released to waterways or irrigated.

SPECIES

- W. Freshwater, estuarine and marine species can be cultured on the eastern and western drainages with Class D permits. Strict 'risk minimisation' conditions have been put in place for non-endemic species cultured on the western drainage (e.g. marine fish such as snapper).
- X. Species proposed for culture at specific sites will be assessed in accordance with the NSW Department of Primary Industries 'Introduction and Translocation Policy', and in accordance with any other relevant National Translocation Policy.
- Y. Strict 'risk minimisation' conditions will be put in place to allow the culture of any species not endemic to NSW, e.g. barramundi.

Yabbies (*Cherax destructor*)

- Z. The culture of yabbies will be permitted on the eastern drainage. In some cases ponds/farms will need to be fenced to stop non-endemic, or introduced species of yabbies escaping into natural waterways which could impact upon naturally occurring populations of yabbies. The use of fences may be imposed as a permit condition.

CULTURE OF EASTERN DRAINAGE SPECIES ON WESTERN DRAINAGE

The following essential criteria apply to aquaculture farms on the western drainage which culture fish only occurring naturally on the eastern drainage (such as freshwater fish - e.g. eels, Australian bass; or marine fish - e.g. snapper, mulloway).

Intensive Tanks (e.g. enclosed recirculating system)

- the site and facilities must be above the 1:100 year flood level
- the site must be at least 100m from any waterway (permanent or ephemeral)
- the facility must be a fully enclosed vermin proof building with concrete floor
- a bund wall located in or around the building is required to retain culture water in case of accident (pipe leak or tank breach)
- a waste treatment facility is required with an isolated storage capacity for effluent
- no effluent release is allowed to waterways
- any relevant State or National policy regarding importation of fish from interstate must be complied with.
- disposal methods for salt laden effluent shall be considered on a case by case basis

Outdoor Ponds

- ponds must be secure, and isolated from waterways
- ponds must be at least 500m from waterways
- culture and effluent storage ponds must be located above the 1:100 year flood level and be isolated from rainwater runoff and not subject to overflow
- ponds must be fully netted to prevent access by predators
- cage culture will be permitted within ponds provided that cages are netted

NOTES

1. Eels will not be added to a permit as a by-catch to farming operations.
2. A site assessment will be required for any Class D permit application. This will be undertaken by appropriate NSW Department of Primary Industries personnel (a Fisheries Officer, Aquaculture Manager or researcher).

3.5 CLASS E PERMITS - EXTENSIVE MULTI-SITE AQUACULTURE

3.5.1 BACKGROUND

Class E aquaculture permits are an expansion of Class C aquaculture permits to allow aquaculture at multiple sites. The permit allows extensive aquaculture to be undertaken on multiple properties either privately owned or under an agreement with a number of landholders to lease the water in ponds or constructed farm dams. In this case, aquaculture may be undertaken by individuals or corporations that do not own constructed farm dams but can gain access to them through leasing agreements.

3.5.2 POLICY

- A. Permit applications may be assessed for finfish (with the exception of silver perch) and yabby aquaculture at multiple sites under a Class E aquaculture permit.
- B. Class E aquaculture permits may be assessed for both eastern and western drainage sites.
- C. Class E aquaculture permits will be assessed for eastern drainage sites on a case by case basis. Approvals will be dependent on the assessment of, but not limited to, the potential impacts of yabbies on freshwater crayfish that are endemic to the eastern drainage eg *Euasticus sp.*
- D. Class E aquaculture permits may be approved for constructed farm dams or existing farm dams (mainly used for stock watering or irrigation), but not for billabongs or ephemeral lakes or other natural waterways.
- E. Constructed farm dams will not be approved for harvest if built in natural waterways eg billabongs or isolated outreaches of creek or rivers.
- F. Western drainage dams must not be susceptible to inundation by a 1/100 year flood. Eastern drainage dams must be above the 1/100 year flood level.
- G. There must be no nutrient input to constructed dams. Lining of dams with hay or planting crops in the bottoms of dams is permissible prior to stocking.
- H. The maximum number of constructed dams to be authorised under a class E aquaculture permit will be 1,000 dams on a multiple number of properties.
- I. Authorised staff will be allowed to harvest yabbies or finfish on behalf of the class E permit holder, to be held on site and picked up by the permit holder.
- J. Yabbies harvested for sale from nominated constructed dams may only be sold for human consumption and must be of a table-market size, no smaller in weight than 30g.
- K. A written agreement between the permit holder and the dam owner, specifying terms and conditions relating to the use of constructed dams for purposes of

aquaculture must remain current.

- L. Reasonable access to public waters by licensed commercial fishers through Western Division properties under a Class E permit must not be restricted by the permit holder or property owner.
- M. Species authorised for under class E permits (with the exception of eels), see **3.3.2 'J' and 'L'**.

NOTES

1. The cultivation of yabbies under a class E aquaculture permit will be regulated by the 'Multi-site Aquaculture Permit for Extensive Culture of *Cherax Destructor* in constructed Dams – Class E Permit Conditions' and the 'Aquaculture Permit Standard Conditions'.
2. Persons convicted of offences under the *Fisheries Management Act 1994* and it's associated Regulations will not be issued with a class E Aquaculture Permit.

3.6 CLASS F PERMITS - FISHOUTS

3.6.1 BACKGROUND

This permit offers aquaculture farms the opportunity to diversify activities and supplement farm income with tourism. Fish which are cultured extensively or intensively in confined areas offer excellent opportunities for anglers. Fish-outs can be associated with existing aquaculture farms or established as an adjunct to other farm or tourist facilities, e.g. farm-stays.

For fish-out facilities operated on intensive farms, permit conditions require all fish-out operators to provide fishing equipment that is used solely at the fish-out facilities in order to reduce any risk of introducing disease to the farm or spreading it from the farm. Privately owned gear may be used on extensively operated farms.

3.6.2 POLICY

- A. That on the eastern drainage, the site is above the 1:100 year flood level.
- B. That on the western drainage, the site is not inundated by a 1:100 year flood.
- C. Class F permits will allow the fish-out of certain species outside their natural range as long as there is no threat of escape to natural waterways and that the stocking of fish complies with relevant translocation policies.
- D. That in farm dams the fish-out will only be approved if undertaken extensively with no feed or nutrient input.
- E. That the fish-out will be approved if undertaken intensively only in purpose built ponds/tanks/raceways providing there is no release of effluent to waterways for all species except trout in some circumstances (site specific).
- F. Species authorised for fish-outs operating extensively, see 3.3.2 'J' and 'L'.

3.7 CLASS G PERMITS - EXPERIMENTAL AQUACULTURE

3.7.1 BACKGROUND

The Class G permit facilitates the development of aquaculture technologies, the trialing of new sites, or the aquaculture potential of new species to assess their commercial or technical viability. In some cases, the activity is for established commercial aquaculture facilities where an existing development consent covers the activity. The *Fisheries Management Act 1994* does not allow proponents undertaking experimental work in aquaculture to sell fish without a permit.

The Class G permit offers proponents the opportunity to trial aquaculture on a limited scale, under appropriate conditions for a defined time period.

3.7.2 POLICY

- A. Experimental permits will be assessed on a case-by-case basis and only be issued for a short duration (1-2 years).
- B. Approval by other relevant government agencies may need to be obtained prior to a permit being issued.
- C. The site of a land-based experimental and effluent storage facility will need to be above the 1:100 year flood level.
- D. No effluent is to reach waterways, and all outlets are to be screened for land-based facilities.
- E. The sale of fish produced at the end of the experimental period is allowed.
- F. NSW Department of Primary Industries must be contacted if there are any significant mortalities or unexplained diseases in fish.
- G. A report must be submitted to the Director of Primary Industries upon the expiry of the permit detailing information as specified in the permit.

NOTES

1. **See** NSW Department of Primary Industries 'Guidelines for Applications for Experimental Permits'.
2. A site inspection will be required in most cases by a Fisheries Officer or Aquaculture Manager prior to the aquaculture permit being approved.

3.8 CLASS H PERMITS - HATCHERIES

3.8.1 BACKGROUND

Generally, the development of an aquaculture industry depends on the reliable supply of seed stock. There is an increased focus on marine and freshwater hatcheries to produce fingerlings or shellfish spat for conservation purposes and for stock enhancement of waterways for recreational and commercial fishers. Increasingly, the development of modern aquaculture has focused on this area of breeding for commercial gain.

The establishment and operation of a hatchery for any aquaculture species requires careful planning to ensure vigorous, quality stock is produced. The major issues of concern are the following:

a) Broodstock Supply

Broodstock are the mature individuals of a species capable of naturally spawning, or of being artificially induced to spawn in a hatchery environment. Broodstock must be maintained in the hatchery under strict husbandry conditions to ensure that they are healthy and fit and capable of producing viable quantities of offspring, or juveniles.

In certain species, broodstock need to be sourced from the wild, in which case a collection permit may be needed. The permit may stipulate that broodstock sourced from the wild must be returned to the site of capture and released at the end of the breeding program.

b) Disease and Pest Transmission

Since the purpose of a hatchery is to provide juveniles for on-growing in other areas, it follows that a hatchery also has significant potential for disease transmission, both to other aquaculture farms and into the natural environment. Common reasons for disease catastrophes include: Poor site selection, inadequate and poorly designed facilities, lack of quarantine procedures/safeguards, lack of bio-security, poor understanding of disease origin, prevention and remedy, combined with a general lack of experience and/or training in hatchery procedures and fish health management.

These important links in a hatchery operation are also emphasised in the hatchery application form and are carefully considered by NSW Department of Primary Industries in the approval of a Class H permit.

c) Genetics

The application of genetic principles and appropriate management at hatcheries are extremely important in stock enhancement and selective breeding programs.

3.8.2 POLICY

A. Hatcheries located on the eastern drainage to be constructed above the 1:100 year flood level. Hatcheries on the western drainage are to be constructed such that they cannot be inundated by a 1:100 year flood.

Hatchery to have adequate broodstock rearing facilities and purpose built nursery/larval rearing ponds/tanks.

B. Hatcheries to have:

- abundant supply of high quality water (as measured by pH, temperature range, ammonia, hardness, conductivity/salinity and iron content).
- concrete floors sloping to open drains
- approved electrical wiring design
- bottom draining tanks
- water filtration (sand/in-line cartridge filters)
- aeration facilities
- spawning tanks with temperature control facilities
- ability to be quarantined
- incubation facilities/thermostatic control (hatching aquaria, pelagic egg incubators)
- laboratory equipment (microscope, measuring cylinder and beaker, weighing balance, refrigerator etc.)

D. Site to have effluent storage pond to store effluent from all hatchery, quarantine, transport and holding facilities. Effluent storage pond dimensions considered on a case by case basis.

E. Effluent from hatcheries should be kept isolated from grow-out facilities.

F. There shall be no effluent release from freshwater hatcheries with the exception of trout in certain circumstances (site specific).

G. For prawn hatcheries that import broodstock from interstate, effluent must be stored and quarantined until disease certification of the progeny is approved, thereafter it can be released to waterways.

H. For other endemic marine and estuarine species the hatchery must have the ability to store and quarantine effluent prior to release.

Notes-

A class H permit is not required for the hatching or rearing of yabbies or eel-tailed catfish which are cultured under a Class D aquaculture permit as in the majority of cases they are reared in-situ in ponds.

3.9 HATCHERIES - ACCREDITATION

NSW Department of Primary Industries will require certain hatcheries to be accredited. Hatcheries will firstly be assessed for risk which will be dependent upon the species of fish being cultured and where the fish are destined. Establishments which breed fish primarily for release to natural waterways are potentially more impacting than those which produce fish only for grow-out because there is greater potential for disease transmission. Hatcheries breeding fish for restocking natural waterways would be more accountable for their day-to-day operations.

Each Individual hatchery would need to meet the criteria for accreditation.

3.9.1 POLICY

Hatcheries must comply with the relevant NSW Department of Primary Industries - "Hatchery Accreditation Scheme" developed for Class H permit holders.

3.10 CLASS I PERMITS - CHARITY PERMITS

3.10.1 BACKGROUND

Charity permits authorise fish-out operations where proceeds accrued from the sale of fish are intended for charitable (non-profit) purposes. The fish-out may occur, for example, in a swimming pool or in a dam which has been stocked with fish.

Fish-out operations intended for commercial gain are covered by the Class F aquaculture permit.

3.10.2 POLICY

- A. Charity permits will be assessed on a case-by-case basis.
- B. NSW Department of Primary Industries policy in relation to the introduction or translocation of fish and release of effluent will need to be complied with.
- C. In certain cases, a Permit to Stock Fish may be required where fish are to be stocked to waterways. The fish must be sourced from locally derived broodstock.
- D. Class I permits will not be issued for more than 3 months.
- E. The applicant will need to demonstrate attention to the welfare of fish being kept for a charity fish-out. This will include water temperature, water quality, stocking density and feeding considerations.

4. SITE ASSESSMENT AND PERIODIC INSPECTIONS

4.1 BACKGROUND

Prior to NSW Department of Primary Industries issuing an aquaculture permit, a site assessment may be required. Correct site selection is imperative to ensure the viability of a proposed aquaculture project and to ensure that environmental performance will be met as required by regulatory agencies.

Fisheries Officers play a role in the initial assessment of an aquaculture permit application to ensure that a professional, environmentally responsible aquaculture industry is established in NSW.

A post-construction inspection is particularly important with intensive farms which are more likely to impact the environment if appropriate construction methods or materials are not employed. Inspections are also an opportunity to review the Commercial Farm Development Plan. They are needed to verify that aquaculture facilities, once completed, conform to the original plans and specifications as approved by NSW Department of Primary Industries. Annual inspections may be undertaken to ensure ongoing compliance with permit conditions. These may be done by NSW Department of Primary Industries or by an independent auditor.

4.2 POLICY

1. Pre-construction site assessments.

- A. Site assessments will be undertaken to ensure that the proposed site is suitable for aquaculture and that the construction and operation of the aquaculture facility will not negatively impact upon the environment.
- B. Each Class D, H and some Class F (intensive) permit applications will require a site assessment prior to an aquaculture permit being issued. Other classes of permits applied for will be assessed on a case-by-case basis.
- C. The proposal must be consistent with any relevant Aquaculture Industry Development Plan (AIDP) or other relevant NSW Department of Primary Industries Policy.
- D. An "Assessment Form For Aquaculture Permit Applications For Land Based Operations" must be completed and checked Aquaculture Administration.
- E. Photographs of the area must be taken and provided for NSW Department of Primary Industries file reference.

2. Post-construction site inspections

- F. For all Class D, H and some F permits, sites will be inspected in the first year after site construction/commencement of aquaculture operations, and there after every 3 years (or more frequently as required). Permits approving the aquaculture of non-native species to NSW and species not endemic to the drainage will be inspected annually.
- G. For all Class C, E and F permits, sites will be inspected 1 year after site

construction/commencement of aquaculture, and thereafter every 5 years, or more frequently as required.

- H. Class G and I permit applications will be assessed on a case-by-case basis as to whether a site inspection is required.
- I. Where the permit holder has more than one class of permit for a site, the whole farm will be inspected in accordance with the most frequent time interval which applies to any one of the permit classes. e.g. if a Class D and Class F permit are held, the whole farm would be inspected annually.

The officer or auditor of NSW Department of Primary Industries undertaking a site inspection shall ensure that:

- I. The aquaculture permit holder complies with all relevant provisions of the *Fisheries Management Act 1994* and associated regulations, and relevant policies applying to each species being farmed and each class of permit.
- J. The aquaculture permit holder complies with permit conditions relating to the aquaculture permit.
- K. A “Fish Farm Inspection Form” is completed and checked by a senior aquaculture manager of NSW Department of Primary Industries.
- L. Photographs of the area must be taken and provided for NSW Department of Primary Industries file reference.

Notes - a separate policy applies to inspection of hatcheries, requiring fish hatcheries to be accredited - **See 3.9**

5. REGISTER OF PERMITS

5.1 BACKGROUND

NSW Department of Primary Industries often receives requests from fish farmers, businesses or members of the public for a list of aquaculture permit holders. A public register of aquaculture permit holders could be used for a number of purposes including to source stock from farmers, or to contact farmers to promote and advertise products associated with the aquaculture industry.

NSW Department of Primary Industries currently provides a Public Distribution List (Industry Trade Directory) for this purpose. The list comprises only those permit holders who have given permission for their contact details to be available to the public, as requested. The list includes only a proportion of the total number of aquaculture permit holders on file with NSW Department of Primary Industries.

5.1.2 POLICY

- A. The Public Distribution List of aquaculture permit holders will be available from the NSW Department of Primary Industries Internet Site, www.dpi.nsw.gov.au. Copies of this document can also be obtained by contacting the Aquaculture Division on (02) 4982 1232.
- B. The register will be updated on a regular basis.

6. SPECIFIC DEPARTMENT OF PRIMARY INDUSTRIES POLICY

NSW Department of Primary Industries has a number of separate policies concerning land based aquaculture. These include:

- 'Aquaculture Permits for Silver Perch' Policy
- 'Introduction and Translocation' Policy
- 'Stocking and Harvesting of Fish in Farm Dams' Policy
- 'Barramundi Farming' Policy
- 'Eel Aquaculture' Policy

6.1 AQUACULTURE PERMITS FOR SILVER PERCH

See - *NSW Department of Primary Industries Policy Paper A94/2*

6.1.1 BACKGROUND

A Ministerial Silver Perch Taskforce developed this policy in 1994 to promote a professional, environmentally sustainable silver perch industry in NSW using best practice aquaculture techniques. This followed a moratorium on approving silver perch permits in late 1993 where many proponents presented poorly prepared applications, often based on the belief that intensive farm dam culture was viable.

The policy has been amended to include 'fish-out' (Class F permit) requirements for silver perch, whereas previously the policy only detailed hatchery (Class H) and grow-out (Class D) criteria. It is possible that without quality assurance implemented with the 'Aquaculture Permits for Silver Perch' policy, poor quality or unpurged fish could enter the market place. It is also important to ensure that the existing policy is not circumvented by allowing the grow-out of silver perch in fish-out ponds.

6.1.2 POLICY (for Class F silver perch permits)

- A. A Class D (silver perch) permit holder may also be granted a Class F (fish-out) permit for silver perch. The fish-out pond will need to be approved by NSW Department of Primary Industries and the new water surface production area amended to the permit.
- B. Where a proponent does not have a Class D aquaculture permit for silver perch, they may obtain a silver perch fish-out (Class F) permit on the following conditions:
 - That on the eastern drainage, the site is above the 1:100 year flood level.
 - That on the western drainage, the site is not inundated by a 1:100 year flood .
 - Class F permits will allow the aquaculture of silver perch outside their natural range as long as safeguards are in place to ensure they do not escape to natural waterways.
 - That the fish-out activity will be undertaken with no feed or nutrient input.

- That fish grown in the fish-out pond only be sold to the people catching them from the fish-out pond. Fish cannot be sold to restaurants or auction houses or be retailed from their premises.

6.2 INTRODUCTION AND TRANSLOCATION

This policy describes controls relating to the introduction and translocation of fish species and fish stockings to waterways and farm dams.

See - NSW Department of Primary Industries Policy Paper R 94/1

See also - Aquatic Habitat Management and Fish Conservation 1998 - *Policy and Guidelines*

See also - National Translocation Policy for Live Aquatic Organisms (A Commonwealth document by the Standing Committee on Fisheries and Aquaculture (SCFA))

6.3 STOCKING AND HARVESTING OF FISH IN FARM DAMS

This policy was developed to promote the extensive culture of fish species in constructed farm dams.

See - NSW Department of Primary Industries Policy Paper A94/2

6.4 BARRAMUNDI FARMING POLICY

This policy was established to allow the culture of barramundi in NSW under strict risk minimisation conditions, with criteria describing site location, construction and treatment and disposal of effluent, and fish health protocols for fingerling importation.

See - NSW Department of Primary Industries Policy Paper, A97/1.

6.5 EEL AQUACULTURE POLICY

This policy was established to regulate the development of eel aquaculture in NSW, including the capture of eel seedstock from the wild to stock NSW eel farms. The policy is based on the Aquaculture Permits for Silver Perch Policy, with criteria covering site location, design and construction.

6.6 OTHER POLICIES

Proponents should assess any development against the 'Project Profile Analysis' section of any Aquaculture Strategy that may exist for the region in which the farm is to be located (eg North Coast Sustainable Aquaculture Strategy), to ensure that the proposal complies with the Strategy objectives as well as the design and operational criteria of the Strategy. Information on and copies of the various strategies can be obtained from the DPI website at www.dpi.nsw.gov.au.

Attention is also drawn to the ***Exhibited Animals Protection Act 1986*** administered by NSW Agriculture. A permit is required by any person displaying fish.

Definitions

“Broodstock” means parent fish used to produce offspring

“DA” means Development Application

“EIS” means an Environmental Impact Statement

“Extensive” means aquaculture undertaken without providing supplementary food for fish that are being cultured

"Fish" means the eggs, milt, larvae, juveniles and adults of the species authorised by a permit

“Floodplain” means the flood plain level nominated in an LEP or those areas inundated as a result of a 1/100 year flood event.

“Food” includes any form of nutrient

“Grow out” means facilities for growing fish to market size

“Hatchery” means a facility for the maintenance and maturation of broodstock, spawning (natural and artificial) and larval rearing to fingerling or post-larval stage

“Intensive” means aquaculture undertaken by providing supplementary food for fish that are being cultured

“Nursery” means facilities for growing small juvenile size, eg fry to fingerling of weight 0.5g to 50g

"Premises" means all or part of the lands referred to in a permit and includes all structures thereon

“REF” means a Review of Environmental Factors that identifies and evaluates the impact of an activity under Part 5 of the EP&A Act. If the impacts are not considered significant then an EIS is not required. An REF documents an environmental management strategy

“SEE” means a Statement of Environmental Effects that accompanies a DA for non-designated developments. It should demonstrate that environmental impacts have been considered and should set out steps to be undertaken to protect the environment or mitigate harm

"Sell" includes -

- a) sell by wholesale, retail, auction or tender;
- b) barter or exchange;
- c) supply for profit;
- d) offer for sale, receive for sale, or expose for sale;
- e) consign or deliver for sale;

f) have in possession for sale; or
cause, or allow any of the above to be done

“SEPP” means State Environment Planning Policy

"Waters" means all waters that are within the limits of the State and include rivers, creeks, lakes, lagoons and artificial dams, tanks, reservoirs, ponds, canals, channels, waterways, estuaries and oceans

“Waterways” means a wetland, waterbody or groundwater

Marine and Estuarine Aquaculture Species Examples

Australian bass
Banana prawn
Bloodworms
Black tiger prawn (*Penaeus esculentus*)
Dusky flathead
Eastern king prawn
Long and short finned eels
Estuarine Clam
Estuarine Perch
Farmed Tiger prawn (*Penaeus monodon*)
Mullet
Greasyback prawn
Kuruma prawn
Mud crab
Mulloway
Offshore greasy back prawn
Sand whiting
School prawn
Silver bream
Snapper
Southern bream