

## THE REGULATION OF INVASIVE SPECIES

### CLARIFICATION OF THE REGULATION OF BROWN TROUT AND RAINBOW TROUT

**The Department of Environmental Affairs**

19 May 2014

There is confusion regarding the implications of the proposed listing of brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*) as invasive species in terms of the National Environmental Management: Biodiversity Act, 2004 (Act no. 10 of 2004) (NEMBA). The Department of Environmental Affairs has proposed the listing of both species and therefore certain activities involving these species will be regulated in terms of NEMBA and the Alien and Listed Invasive Species Regulations.

The current confusion relating to the implications has been fuelled by a campaign led by an anti-regulation lobby associated with the Federation of South African Flyfishers (FOSAF) and Trout SA, and provocative articles in *The Complete Fly Fisherman* and various newspapers. The following is the position of the Department of Environmental Affairs regarding the two trout species.

There is no threat to the continued operations of existing, legal trout industries as a result of the proposed Regulations and listing of trout as invasive species. Contrary to unsubstantiated and absurd claims that the Department is intent on “destroying the trout industry” and “eradicating trout”, Government agrees that these trout species must be exploited fully within the systems they have already invaded.

In fact, this legislation is important for the trout industry, to stop “trout waters” being invaded by fish species that out-compete trout.

It is important to state that trout are already regulated. No trout farm may operate without a Permit. A Permit is required to stock trout in rivers and dams. These Permits are issued by the various Provinces.

Because of the need to recognize the utilization of trout, the manner in which the two trout species are listed is more detailed. This is also true of some other species that have high value, despite being invasive, such as certain gum (*Eucalyptus*) tree species. Some of the conditions around trout (and other selected listed invasive species) have, in fact, been relaxed in the new Regulations.

Following the public consultation process, the latest draft version of the listing of trout is shown below.

SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
<i>Oncorhynchus mykiss</i> (Walbaum, 1792)	Rainbow trout	<ul style="list-style-type: none"> <li>a. 2* for fresh-water aquaculture facilities for rainbow trout.</li> <li>b. 2 in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves specified in terms of the Protected Areas Act.</li> <li>c. 2 for release in rivers, wetlands, lakes and estuaries.</li> <li>d. Not listed for discrete catchment systems in which it occurs (including for release in dams), excluding (a), (b) and (c).</li> <li>e. Not listed for salt-water aquaculture facilities.</li> </ul>	<p><u>Exemptions:</u></p> <ul style="list-style-type: none"> <li>a. Rainbow trout are exempted for a period of two years from the date upon which this notice takes effect, from requiring a Permit for any restricted activity in terms of the Act or Alien and Invasive Species Regulations, 2014, provided a person is in possession of a valid Provincial Permit issued in terms of Provincial legislation where required for rainbow trout.</li> <li>b. Catch and release of rainbow trout is exempted in discrete catchment systems in which it occurs.</li> </ul> <p><u>Prohibitions:</u></p> <ul style="list-style-type: none"> <li>c. The transfer or release of a specimen of rainbow trout from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited.</li> <li>d. Release into a discrete catchment system from a salt-water aquaculture facility is prohibited.</li> </ul>
The proposed controls for the brown trout are the same, except that the provisions for salt-water aquaculture facilities do not apply.			
* A Category 2 listing means that a Permit must be obtained to authorise activities involving the listed species. Where trout is listed in Category 2, a Permit will be required for certain activities, involving live trout, including importing, breeding, selling and buying, etc. NOTE: Those with existing Permits from a Province do not have to apply for a Permit for a period of two years.			

In summary, for the two trout species:

1. All activities currently authorised through an existing Permit (issued by the Province in terms of its legislation) are exempted from the requirement of a Permit in terms of NEMBA and the AIS Regulations for a period of two years. An application for a Permit by an existing facility would not necessarily require a full risk assessment and may follow the Permit renewal process after the two-year period has expired.
2. Those with existing Permits must apply for Permits under these Regulations after two years, if a Permit is still required.
3. In Protected Areas and for fresh-water aquaculture facilities, trout may be farmed or stocked, but only with a Permit.
4. Trout may only be stocked in rivers, lakes and wetlands, with a Permit.
5. Trout may be kept in dams without a Permit, provided this is not in a Protected Area; is not an aquaculture facility; and trout already legally occur in the catchment.
6. Trout may be stocked in the dams mentioned in #5, without a Permit.
7. Rainbow trout may be stocked in salt-water aquaculture facilities, without a Permit.
8. A Permit is not required for fishing for or catching of trout.
9. Fly-fishers and others may catch-and-release trout in the same waters (including in Protected Areas), without a Permit.
10. Most importantly, trout may not be introduced into a discrete catchment system in which they do not occur.

[A discrete catchment system refers to all inland water bodies, whether fresh or saline, including rivers, lakes, dams, wetlands and estuaries, that are within a catchment that is separated from other catchments.]

A change in the draft Regulations, from what was published for public comment, is that trout in Fish Sanctuary Areas (areas identified for critically endangered or endangered indigenous fish species) are no longer Category 2. The scientists and Provincial experts were of the view that the above measures are sufficient for such areas. Furthermore, as also pointed out in the public-consultation process, the maps for the Fish Sanctuary Areas are hard to navigate. Enforcement would also be difficult. The presence of critically endangered or endangered fish would, of course, be a consideration in any application for a new Permit.

An important concession has been given with respect to the two trout species (and large-mouth bass), in that they may be released into a dam in a system in which the species already occurs, without a Permit. For all of the other fourteen listed fish species, this restricted activity is either prohibited or requires a Permit.

A consequence of this is that a Permit is not required for the transport or movement of live trout in areas in which they occur. If this is approved, and should the Department find increases in the areas invaded by any of these three species, then that concession would need to be reviewed. (No fish – be it an indigenous or an alien or a listed invasive fish – may be introduced into a river, lake, wetland or estuary without a Permit, and for most of the listed invasive fish species it is prohibited to do so.)

## **1. Previous Regulations**

Regulations were published (but never implemented) in July 2013, in which trout were listed as Category 1b species (i.e. must be controlled). These Regulations were in line with the enabling provisions in the National Environmental Management: Biodiversity Act (NEMBA) at that point in time.

Subsequently the Act was amended and more flexible exemption, categorisation and prohibition provisions were inserted. These amendments came into effect on 23 July 2013.

The new provisions in the Act enabled the Department to propose a more nuanced approach, that allows for the management of invasives in a manner that provides for the flexibility required for certain species, including among fresh-water fish. It also allows the Department, where appropriate, to address the complexities involved in balancing the threat to biodiversity and the management of this threat with economic growth opportunities associated with certain listed invasive species.

In terms of the amended Act, these new Regulations were published for public comment in February 2014, in which the two trout species were listed as shown in the Table above. The amendments to the Act furthermore enabled the department to address the transition from the current systems, where activities are regulated in terms of provincial legislation to the new system, where activities will be regulated in terms of national legislation. In this regard, existing Permits will remain valid for a period of two years.

The July 2013 Regulations are to be replaced by these new 2014 Regulations.

## **2. “Trout are not invasive”**

A legal argument has been put forward by the anti-regulation lobby that trout should not be listed, because “a species is only invasive if it either causes economic harm or causes harm to human health”. In fact, the law says that a species is invasive if its “establishment and spread outside of its natural distribution range (a) threaten ecosystems, habitats or other species or have demonstrable potential to threaten ecosystems, habitats or other species; and (b) may result in economic or environmental harm or harm to human health.” It is quite obvious that, if the spread of a species may result in environmental harm, then they are invasive. (How can a “Biodiversity Act” not protect biodiversity?)

To take this to its logical conclusion, indigenous species could then be decimated or driven to extinction, and the law should not intervene, unless human well-being is affected. The Department does not believe that the vast majority of fly-fishers would support that position. (In any event, “human health” can also be “harmed” – think of the psychological sense of loss through rhino poaching.)

The Department sees no merit in the legal argument presented by the anti-regulation lobby. There must nevertheless be evidence that the trout species are invasive in an ecological sense. Trout have self-sustaining populations in many (cool) waters, and they have to eat to stay alive. What then are they eating, and might this have an impact on biodiversity? The only formal scientific studies that have been done in South Africa all say that the trout are out-competing indigenous species (including eating indigenous fish, amphibians and invertebrates) in suitable waters.

No-one has come forward with one scientific study in South Africa that has shown otherwise. The Department’s science-based risk assessment, co-ordinated by the South African National Biodiversity Institute, confirms that the trout should be classified as invasive in our country, and will be available to all interested and affected parties.

The international literature on the invasiveness of trout is absolutely overwhelming in finding that brown trout and rainbow trout are very invasive species outside of their natural distribution ranges. (Both species are listed amongst the world 100 worst invasive alien species by the International Union for the Conservation of Nature (IUCN).) Those who are in any doubt should google the words “trout” and “invasive”. It provides over 1.5 million sources.

FOSAF has said, commendably, that they are completely opposed to trout being introduced into waters in which they do not occur. The Department has questioned why they have this strongly held position, if trout are not invasive. If trout have the many economic benefits that are being extolled, and they are not invasive, why would the anti-regulation lobby then not argue that trout should be put in every water body where they can survive?

The answer, as most fly-fishers know, is that trout are invasive in suitable waters, and introducing them into catchment systems in which they do not occur can result in environmental harm. The Department concurs, and that is why it has such severe penalties that can be imposed on anyone caught introducing any fish species into a water body in which it does not occur (without a Permit).

A further irony in the position of the anti-regulation lobby is that the trout industries would doubtless want the Department to enforce its Regulations on anyone caught introducing, say, small-mouth bass (which eat trout) into “trout waters”. The absurd interpretation of the definition of “invasive” by the anti-regulation lobby would mean that the Department could not prevent an invasion of small-mouth bass either.

### **3. Controlling trout**

FOSAF has supported, again commendably, that where there are areas in which it is possible to reclaim rivers from invasive species, to protect endangered indigenous fish species, this should be considered.

The Department has funded a few successful efforts to remove small-mouth bass in the Western Cape. The costs of doing so are exorbitant, even for the smallest of tributaries and wetlands.

There are some streams of low angling value in the Western Cape (e.g. the Krom River in the Cederberg), where localised removal of trout is being undertaken, in consultation with trout-angling bodies.

However, the priority must be the protection of those areas that have not been invaded by fish and fresh-water invertebrates. Any possible small-scale reclaiming of tributaries poses no threat whatsoever to aquaculture, and only a most marginal impact – if any – for recreational fishers.

If anyone is in any doubt about the challenges of reclaiming rivers that are invaded, then read about efforts to use the piscicide, *rotenone*, on invasive rainbow trout in a 2.4 km and a 20 km stream in Australia (<http://www.conservation.co.nz/documents/science-and-technical/PF10lintermans.pdf>), and then consider how many thousands of kilometres of rivers are invaded by invasive fish in South Africa.

### **4. Impact on Property Prices**

The anti-regulation lobby has quoted figures regarding the impact of the Regulations on property prices. These impacts are not verified in any way, and yet are stated as if factual. There are many reasons why property prices fluctuate. There are many ruses that a buyer may use to knock down the price of a property. (Note that this impact was put forward against the July 2013 Regulations, when trout were listed in Category 1b, and yet – somewhat deceitfully – the accusation is still being used against the February 2014 Regulations.)

What is intriguing about the arguments being put forward by the anti-regulation lobby, is what impact they may be having. What are the bizarre arguments that “trout are going to be eradicated”, and “the Government is out to destroy the trout industry” doing to property prices associated with trout? (To reiterate, neither argument is true. It is the Department that will implement these Regulations, and it will not be taking legal action against the legal farming, stocking or possession of trout.)

A Dullstroom fly-fisher recently said a farm that was on the market in the area was not bought, as the potential buyer was reluctant to purchase the property, given that what he had heard from the anti-regulation lobby was taken to mean that he could not stock a dam on the farm with trout. The Regulations on trout (as shown above) say the opposite. As there are already trout proven to be legally in the catchment, the dam will be able to be stocked with trout without requiring a Permit.

The Department even included the following clause in the draft Regulations: "The new permit-holder ... will be subject to the same conditions as the permit-holder who has sold the specimen of an alien or listed invasive species, or the property on which a specimen of an alien or listed invasive species occurs, unless specific circumstances require all such permit conditions to be revised, in which case full reasons must be giving in writing by the issuing authority" (sub-regulation 30(2)).

The implication of the above is that those with existing Permits can sell their properties, and the new owners cannot be denied a similar Permit unless all Permits in the area are revised. These are patently not actions of an authority intent on "destroying industries" built on invasive species.

#### **5. Illegal stocking of trout**

It may be that trout have been illegally introduced into some dams, or even that there are some aquaculture facilities that are illegal, in terms of the current laws governing trout. If so, this may be fuelling some of the negativity within the anti-regulation lobby. How revealing, then, that the proposed Regulations may facilitate the process for a person to become compliant in cases where there is current non-compliance. Yet this lobby claims that there is an attempt to destroy the industry.

#### **6. "Trout must be eradicated"**

Lawyers from the anti-regulation lobby claim that the Regulations mean that trout must be killed. This is incorrect. In most areas in which they occur, trout are (now) not listed. It is only where they are in a defined Protected Area, or for aquaculture facilities, or for stocking in a river, lake or wetland, that they are Category 2.

They argue that by listing the trout as Category 2, the trout must be killed. That is incorrect. In a defined Protected Area, or in an aquaculture facility, or for stocking in a river, lake or wetland, people are authorised to carry out specific activities, subject to conditions in the Permit. In dams, in systems in which they occur, they are not listed. These trout do not need to be killed.

(Actually, the word that these lawyers persist in using is "eradicate". This would mean to kill every live trout specimen in the country. It is entirely impossible. Thus far, on mainland South Africa, only one invasive species – a snail – is known to have been deliberately eradicated.)

#### **7. "Alien species are being targeted"**

There are absurd accusations by the anti-regulation lobby that Government is targeting alien species like cattle and poultry, grapes and dogs. Yes, they are alien in South Africa, but these Regulations do not target alien species that are already legally in the country and are not invasive.

South Africa has many thousands of alien species in our country. The Department is proposing to list 561 species – a small fraction of those found in our country. If any of the other alien species is shown to be invasive, then the Department will consider listing it.

Otherwise, there is no control from this legislation relating to those alien species already (and legally) in the country. It is highly inflammatory and deliberately misleading for some in the anti-regulation lobby to be making such unfounded statements.

#### **8. A way forward**

The Department needs to work with the industries that are given permission to take advantage of a number of invasive species that have value. The Department must demarcate where or how these invasive species can be utilized, setting aside areas in which to do so (as has been done, for example, with the forestry industry).

The benefits of utilizing the species must certainly outweigh the costs. For the two trout species, this has become the case in most, if not all, of the areas in which they have already invaded (including because of the practical difficulties and unaffordable costs of trying to remove them from areas that they have invaded). What is not negotiable is invasion of areas in which they do not occur.

Let it be stated that the Department's Regulations and listing of invasive fresh-water species, including trout, have the full support of the Aquaculture Unit in DAFF (after some modifications that they recommended). Furthermore, DAFF and DEA will work together to avoid any undue legislative burden on the aquaculture sector through the streamlining of Permits, and to looking at appropriate norms and standards in future amendments of the laws.

The Department has the full support of Southern African Sustainable Seafood Initiative's "Green Listing" of trout, necessary for the sale of trout in major retail stores like Woolworths and Pick 'n Pay. Contrary to a stated objective in the founding meeting of Trout SA, it is not true to say that, "Listing trout as invasive will likely lose South African trout's green SASSI rating". SASSI has said in a letter to *Farmer's Weekly* that, rather, it is a failure to adhere to these Regulations that would put the Green Listing at risk.

The Department also has the absolutely overwhelming support of fish scientists in South Africa, as it does from the Provincial experts. Other fishing interests are now also coming out in support of these Regulations.

The proposed Regulations are realistic, firm, pragmatic and mindful of invasions that have already occurred. The pragmatism extends to treating all alien species in our country as “innocent until proven guilty” – they are not controlled in these Regulations unless they are listed as invasives. (Government does take an appropriate “guilty until proven innocent” approach to alien species coming into the country, as is accepted international best practice.)

It is not just for trout (or bass or carp species) where the Department has been pragmatic. It has nuanced approaches to jacarandas, gums and other trees; to rose-ringed parakeets and other pet species; to game species, and to other species where there must be, where appropriate, a balance between the harm being caused by invasives, and the benefit (or pleasure) that they may bring.

There are always extremists who are dissatisfied with an action, no matter what the level of negotiation. The Department has to be able to justify its proposed Regulations to its political principals. In the case of listing of the two trout species, the Department is confident that it can do so.

**In summary for what is being proposed:**

1. **There is no threat to trout that are legally in waters in South Africa.**
2. **There is no threat to the trout industries as a result of the proposed legislation.**
3. **Government supports a growth in aquaculture using trout, within Permit conditions (in catchments in which they occur).**
4. **Government and the Department are patently not intent on “destroying this multi-billion Rand industry” and the associated jobs, as has been disingenuously claimed by the anti-regulation lobby.**
5. **On the contrary, this legislation is vital to the trout industry, if together we are to stop “trout waters” being invaded by invasive fish species that will themselves out-compete trout.**
6. **The biggest threat that may lead to needing to strengthen this legislation in the future is if more waters become invaded by trout.**

It’s time that those criticizing these Regulations stood back and reflected on Government’s actual position regarding the regulation of the two trout species, as opposed to what some have been falsely or misguidedly claiming to be our intentions. Enough harm has been done to trust and relationships, and to the trout industry itself.

Finally, it is acknowledged that the Department must produce a “user-friendly” guide to the Regulations. It is not always easy to follow legislation, and the Department has a duty to make it understandable. The Department has committed to produce a guide before the Regulations take effect.

**Issued by the Department of Environmental Affairs.  
Contact Person: Mr Zolile Nqayi at 021.819-2423 or [ZNqayi@environment.gov.za](mailto:ZNqayi@environment.gov.za).**



*The Environmental Programmes in the Department of Environmental Affairs has, over the past decade, funded a factory to manufacture lures (for trout and bass), providing R5 million that created 60 jobs for women. It has also spent tens of millions of Rands clearing rivers that are “trout waters” of invasive alien plants. Whilst not the primary purpose of the clearing, it has markedly improved fly-fishing. These are not the actions of a Department trying to “destroy an industry”, as the anti-regulation lobby claim.*