

# Contemporary Statement of Quality Deer Management (QDM) 2019

## Overview

- The Tasmanian Government supports the approach of Quality Deer Management (QDM) for maintaining wild fallow deer as a world class hunting resource in Tasmania and is committed to developing a contemporary statement of QDM.
- Quality deer management aims to achieve high quality deer herds, and reduced impact of browsing wildlife achieved through cooperative engagement between landholders and game hunters, and Government.
- Core principles of QDM include voluntary restraint of harvesting young male deer, whilst reducing the overall deer population by increasing harvest of antlerless (females, buck fawns and button bucks) deer.
- Quality deer management aims to manage wild fallow deer so as to deliver the outcomes desired by farmers, foresters game hunters and conservationists.
- It is recognised that QDM can be property specific or regional and ideally developed collaboratively between property owners, game hunters and other stakeholders after considering those matters which influence the population of deer able to be sustained on a property or within a region.
- In developing a QDM plan for a specific property or region a number of matters including the role of game hunters, communications, evaluation, herd size, age distribution of deer, and buck to doe ratio should be considered for inclusion.
- A QDM statement in the form of a Property Based Game Management Plan is a living document which requires regular review and updating.

## Background

### Government commitment

The Tasmanian Government supports the approach of Quality Deer Management (QDM) for maintaining wild fallow deer as a world class hunting resource in Tasmania.

In its response to the Legislative Council inquiry on wild fallow deer in Tasmania the Government committed to “develop a contemporary statement on Quality Deer Management in consultation with a new Tasmanian Game Council and stakeholders to provide clear guidelines for future management of wild fallow deer in Tasmania”.



## **History of Quality Deer Management (QDM) in Tasmania**

The concept of QDM was introduced into Tasmania in 1993 when funding was secured by the Tasmanian Deer Advisory Committee from the Game Management Trust Fund to resource a three year Fallow Deer Management Project. This project promoted the QDM management approach which reflected deer management practice in parts of the USA and Europe, and was embraced by Tasmanian hunters and farmers. The main principles of the program were education of landholders and hunters, engagement between the government, landholders and hunters, harvesting does, managing populations of other browsing wildlife species in return for access to hunting during the male deer season, maintaining herd quality, and allowing young trophy potential males to grow. Changes including anecdotal increase in deer numbers, more intensive farming practices and raised community expectations have occurred over the 26 years since the introduction of QDM in Tasmania, hence it is timely to update the concept.

## **QDM core principles**

The aim of QDM is to promote high quality deer herds in balance with the environment in which the deer reside.

The core principles of Quality Deer Management are:

- Farmers, foresters, conservationists, game hunters, and government engaging with each other and working collaboratively towards mutually beneficial agreed outcomes of game and browsing animal management.
- Voluntary restraint in the harvesting of younger antlered males (2.5 and 3.5 year olds).
- Emphasis on harvesting female (or antlerless) deer.
- Reducing the overall deer population, aiming for appropriate sex ratios, whilst increasing deer herd quality, the hunting experience and protection of primary industry and environmental assets.

## **Wild fallow deer management outcomes**

Wild fallow deer are managed in Tasmania to achieve the following range of outcomes, which in some situations can be antagonistic but in other cases they can be complementary.

- Game hunting resource yielding high quality trophy heads.
- Game hunting resource for high quality meat.
- Reduce negative production and financial impacts on agriculture and forestry.
- Conservation of natural resources, including native plant communities, native fauna habitat and natural landscapes.
- Maintain a sustainable population of wild fallow deer in Tasmania, given they are Partly Protected Wildlife.

## Elements of QDM

### Role of game hunting and game hunters in browsing wildlife management

Game hunting and game hunters are essential tools for managing wild fallow deer in Tasmania. Deer management can be achieved through a cooperative relationship of hunters with primary producers (farmers and foresters) and conservationists to achieve the above outcomes. Hunters potentially will only be interested in managing deer if they get the outcomes they desire being the recreating experience of hunting for trophy males and/or meat. The recreating experience includes benefits of health and wellbeing, spending time in nature and with family and friends. Primary producers and conservationists potentially will only want to engage with recreational hunters if their outcomes of crop protection and conservation of natural resources are being delivered. The compromise appears to be active management of deer populations resulting in less deer, better quality trophies and meat products for recreational hunters (QDM) and reduction of other browsing species including wallabies, possums, rabbits, and hares to deliver benefits to primary production and conservation.

### Communication

Traditionally communication of a QDM strategy was delivered in the form of a Property Based Game Management Plan (PBGMP). These plans are a tool for property owners to use as a communication mechanism between them and their employees, contract shooters and recreational hunters. The plans detail QDM outcomes, access restrictions to the property, hunter requirements such as signing in and out of the property, requirements to record the number of animals harvested, the animals able to be harvested, and other factors such as wood cutting, fishing and use of motor bikes. Traditionally development of PBGMPs have been facilitated by Game Services Tasmania (previously Game Management Unit) working with property owners and hunting group managers. Selected properties still utilise PBGMPs as an agreement between land owners and hunters. These plans are important stakeholder engagement tools but they must be owned by the relevant parties and updated as circumstances change. Game Services Tasmania staff are available to advise on developing PBGMPs but primary responsibility rests with the stakeholders.

### Evaluation

Any plan or strategy should be subject to regular review and evaluation to determine whether it is delivering the desired outcomes, and to identify improvements. A QDM statement should therefore include a means of measuring success and evaluating it. Success could be measured in terms of the characteristics of the deer harvested, such as antler quality, or of observed live animals or in terms of farm production, or landscape health such as ground cover or plant botanical composition, although this will reflect the impact of domestic and all grazing wildlife. Evaluation can be performed by the property owners and hunters, or a hunting group committee.

Harvest data of deer, and other browsing wildlife species taken under crop protection permits and recreational hunting licences is required to be recorded. This can be used as a tool to evaluate herd health and how many animals have been harvested from the property. Traditionally properties



practicing QDM and utilising PBGMPs have recorded additional data such as measurements of antler characteristics, dressed and field carcase weight, body measurements, age (based on jaw bone assessment) and lactation and foetus data. Collection of additional data can be useful for properties to monitor antler size, body weight, fawning and breeding success. Additionally recording the age class i.e. mature male, immature male, buck fawn, does fawn, button buck, doe can be done simply and can inform what percentage of deer age class are being harvested, and how this is affecting the population size. For example, if a high percentage of fawns and a low percentage of adult deer are being harvested there may not be an immediate noticeable decline in the population, therefore harvest efforts may need to be focused on shooting a higher percentage of adult deer. Aging harvested deer by jaw bone assessment can provide insight into the age distribution of deer in the population. Monitoring can be tailored at a property scale dependent on the desired outcomes of game and browsing management on the property.

### **Herd size**

There is a curvilinear relationship between herd size and individual and total animal production from a given area of land. In general increasing herd size increases animal production until a size is reached beyond which further increases result in reduced animal production (less food and resources available to each animal). Whilst there can be many measures of animal production including live weight, live weight gain and in the case of deer, antler quality, some are more important than others such as antler quality being more important than carcase weight from the perspective of a trophy hunter. This therefore implies herd size, and the quality of the herd is an important element of QDM.

Herd size can potentially be linked with herd quality, dependent on sex ratio and habitat conditions. Herd size can be determined on a property and/or regional scale dependent on management/control efforts, habitat quality, desired crop protection outcomes, and desired recreational hunting outcomes. Land owners have the ability to determine outcomes for crop protection and recreational hunting associated with herd size and potentially herd quality.

### **Landowner objectives**

Other than lifestyle blocks, most farms (agricultural and forestry) are commercial with the aim of generating sufficient profit to meet farm management goals and outcomes. Profit can take many forms including personal satisfaction, carbon sequestration and conservation of natural resources. Commercial farms may support deer because they are naturalised into the Tasmanian environment as partly protected wildlife, they provide a recreational hunting resource which also generates income for the farm and encourages management of other browsing wildlife species, and there is no practical way of excluding them from the property. The number of deer that is supported by a farmer is a balance between profit generated from the feed base if grazed by domestic livestock and compared to that generated by the deer. The relationship between the number of domestic livestock and browsing wildlife, including deer, on a property should be considered as a component of QDM.

## **Age distribution of wild deer**

Removing animals of a specific age from such a population can distort its breeding potential and thus its sustainability. Little is known about the current age distribution of wild deer in Tasmania. Gaining an age demographic of deer taken under crop protection permits and antlerless deer under recreational hunting licences could assist in determining the effects of the current harvest based on the age class predominantly harvested. As a component of QDM at a property scale, properties could request this data from deer harvested and set harvest goals and targets to specific age groups suitable for herd goals based on crop protection and herd quality, including trophy heads and meat.

## **Harvesting animals**

Once a QDM strategy for a property has been defined it requires implementation. In many cases implementation requires harvesting of animals by the property owner and employees, hunters associated with the property, contracted shooters or a combination of these. The choice of harvesting operator is a decision of the property owner, but irrespective of the choice a clear understanding of the objectives needs to be communicated to and accepted by the harvester. Any QDM statement should therefore include a communications component. Communication between the property owner, employees, contract shooters, hunters and to some extent Game Services Tasmania is vital to ensure all parties understand and accept the desired outcomes of game management at the property scale.

## **Buck to doe ratio**

It is assumed that a deer population on which no management imposed would be expected to have about equal proportions of males and females. This is not always the case in the wild because of misadventures due to breeding in the case of females and fighting for dominance in the case of males. One buck deer can mate with many does hence fewer males than females are required to maintain a viable population. If artificial selection pressure is applied to males it theoretically should be applied randomly if little or no genetic change in the population is desired or selectively if a change in an important trait of the population is desired. Individual males can therefore have a greater influence on the characteristics of a population than females as in their lifetime they make a greater contribution to the herd. In the case of the desire to improve trophy head quality, bucks with the desired antler quality should be maintained for breeding on the assumption that antler quality is heritable and can be subjectively predicted and assessed. QDM should define the traits and their indicators that are important so as the population can be managed such that genetic gain with respect to the important traits is achieved. Genetic gain is dependent upon the size of a population hence a small relatively closed population is likely to make less genetic progress than a larger one managed in a similar manner. QDM should also define the desired ratio of bucks to does to ensure maintenance of genetic diversity and a sustainable population to achieve a desired outcome. Little is known about the current buck to doe ratio of wild deer in Tasmania. Anecdotal evidence suggests large populations of does, and perhaps a population too large for male deer to sire in breeding time.



## **Biosecurity**

Wildlife move across the landscape and in doing so potentially act as vectors transferring pests and diseases. Similarly, vehicles and equipment entering properties can also be vectors particularly for weed seeds trapped within soil and other material attached to vehicles. Whilst it is not possible to effectively restrict deer movement throughout a landscape vehicle movements can be restricted or managed with clean down protocols hence the biosecurity issue should be addressed as part of a QDM statement.

## **Chemical withholding periods**

Agricultural chemicals are routinely applied as routine management practices and have variable withholding periods.

The withholding period (WHP) is defined in the Agvet Code in relation to the use of a chemical product as the minimum period that needs to elapse between:

- (a) the last use of the product in relation to a crop, pasture or animal; and
- (b) the harvesting or cutting of, or the grazing of animals on, the crop or pasture, the shearing or slaughtering of the animal, or the collection of milk or eggs from the animal for human consumption, as the case may be; in order to ensure that the product's residues fall to or below the maximum limit that the Australian Pesticides and Veterinary Medicines Authority (APVMA) permits.

Withholding periods are stated on the chemical product label under the Table of Directions.

In order to ensure deer harvested on a property do not have residues of agricultural chemicals above the maximum limit permitted by the APVMA a QDM statement should include a protocol of informing hunters where agricultural chemicals have been applied and when the withholding periods for them expire.

## **Landscape or property scale**

The fundamental principle of land ownership is that it can be managed within the confines of the law to achieve the landholder's particular desires, goals and outcomes. Whilst wild deer are not owned, their existence is largely dependent upon them accessing food from land being managed by the land owner and thus within the confines of the law should be part of the resource management decisions made by that land owner.

Accepting this principle means that individual land owners should be free to define the outcomes they require from adopting deer and other browsing wildlife management strategies on their land. Wild deer roam the landscape and potentially multiple properties, therefore herds are affected by decisions made on individual properties which may be detrimental to the outcomes desired by neighbouring properties, the community or a landscape.

Consequently a contemporary statement of QDM can be collectively developed by a group of landholders within a defined landscape who have a shared vision for managing wild fallow deer on their properties.



### **Extension support**

Whilst the above issues are all potential components of a property specific QDM statement their importance will vary between properties and their associated hunting group. Officers from Game Services Tasmania are available to assist landholders to develop a game management plan for their property and a contemporary statement of QDM that is applicable to their property.