



THE AGILE FROG

Species Action Plan

Rana dalmatina

SUMMARY DOCUMENT



Special points of interest:

The agile frog is protected under schedule 1 of the Conservation of Wildlife (Jersey) Law 2000.

DESCRIPTION

The agile frog *Rana dalmatina* is a European brown frog, growing up to 90 mm (snout to vent). The hind limbs are long (the heel extends beyond the snout tip in adults). The snout is rather pointed, the ear drum large and close to the eye.

HABITAT

The agile frog's European habitat comprises of woodlands and wet meadows and, unlike the common frog *Rana temporaria*, it is rarely found in fields or gardens.

LOCAL DISTRIBUTION

The agile frog's distribution in Jersey has declined from seven localities in the 1970's to a single site in 2000. Conservation efforts have tried to increase this distribution to a further two sites in the island.

The agile frog *Rana dalmatina* is distributed widely throughout much of southern and central Europe, but is found in only a few northern locations including Jersey - the frog is not found anywhere else in the British Isles. The Jersey population of the agile frog has been declining in both range and numbers since the early 1900's. In the 1970's only seven localities were listed where the frog could still be found, and by the mid 1980's this had fallen to only two sites. In 1987 one of the remaining two populations was lost as a result of a lethal spill of agricultural pesticide into the breeding pond. The species is now believed to be confined to a single vulnerable population in the south-west of the island.

The Agile Frog Group (AFG) was formed in 1993, when the catastrophic decline of the frog came to light. Its members include staff from the Environmental Services Unit of the States of Jersey Planning and Environment Committee (ESU), the Herpetology Department of the Durrell Wildlife Conservation Trust (Durrell Wildlife), the Zoology Section of the Société Jersiaise, and other concerned local naturalists. Through captive-breeding, reintroduction of the frogs to the wild and careful management of their remaining habitat, the Group has been trying to stop the decline of agile frog numbers.

Despite the efforts of these organisations, the future of Jersey's agile frog is still far from secure. The factors which probably played a key role in the frogs decline are still very much in evidence:

- water quality and quantity, as a result of intensive agriculture, are still below EU standards in many areas;
- the continuing alteration, disturbance, and loss of potentially suitable amphibian habitat;
- the growing numbers of predatory ducks, cats, and feral ferrets.

These and other factors have combined to reduce the frog population to the critical state at which it exists today.

In the face of intensifying threats, the need for a concerted, co-ordinated conservation effort has become acute. This need has prompted the production of the Agile Frog, Species Action Plan. This Action Plan documents the historical decline of the species; identifies the current major threats to its survival; summarises the current action being undertaken to conserve the species and, most importantly, seeks to define the action required in the future to return the species to 'Favourable Conservation Status' as defined overleaf.

ACTION PLAN OBJECTIVES AND TARGETS

The overall aim of the Action Plan is to provide a framework of achievable, practical objectives which, when implemented, will restore the agile frog to Favourable Conservation Status as defined in the European Union Habitats and Species Directive (1992), by the year 2005.

Favourable Conservation Status' exists when: Data on the population dynamics of a species indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats, and the natural range of the species is not being reduced, and is not likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.

Action Plan Objectives

1. To ensure that there is protection of, and a conservation management programme for, all existing natural sites, introduction sites or re-introduction sites.

TARGET: To achieve site protection for all sites by 2002.



2. To increase the number of populations and widen the animal's distribution through introductions/re-introductions.

TARGET: Maintain a sustainable, breeding population at two new sites (Noirmont and one

other to be identified)

by 2005.

3. To maintain a viable captive population of frogs with a minimum of 20 adult animals at a minimum of three locations (a minimum of 60 adults in total),

TARGET: Continue captive-breeding programme at least until objectives 1&2 (above) are satisfied.

4 To further investigate the threats to, and applied ecology of this species in Jersey.

TARGET: Maintain funding for PhD study on the agile frog in Jersey until 2003.

5. To raise the profile and level of awareness, of the agile frog's plight in Jersey.

TARGET: Raise funds and embark on an active publicity campaign in early 2001.

The action required to achieve these targets/objectives is outlined on page 4.

CURRENT STATUS

In the wild - The agile frog in Jersey is now confined to only a single site, L'Ouaisné Common. In less than 30 years their distribution has declined from seven sites in the west of the island to this single location. Work has started on introducing/reintroducing the frog to other sites in the wild, but it is still too early to judge whether this will be successful.

In 'captive' - The primary aim of the captive populations is to maintain a self-sustaining 'safety net' in the event of the extinction of the species from the wild. Their secondary purpose is to generate surplus tadpoles and frogs for reintroduction into existing, and potential, new sites. To this end, there are 6 captive/semi-captive populations in outdoor enclosures around the island, with an estimated total population of 50 adult animals.

CURRENT FACTORS CAUSING LOSS OR DECLINE

Habitat loss/fragmentation - through development for housing etc. small-scale turnover of semi-natural habitats to agricultural land.

Water quality - Pollution of groundwater from agricultural chemicals and domestic waste.

Pollution events - In 2000 alone the Water Resources Unit of the States of Jersey responded to over 167 incidents of pollution.

Water shortages - The loss of ephemeral ponds as a result of a lowering of the water table, through abstraction for domestic and agricultural use.

Predation pressures - Frog spawn is eaten by ducks and palmate newts. Adult frogs are eaten by birds, cats and feral-ferrets.

Introduced exotics - Common frogs *Rana temporaria* and mainland European green frogs *Rana lessonae/esculenta*, are already becoming established in Jersey and will compete with, and predate on, agile frogs.

Small population effects - due to the current population 'bottleneck', future generations of frogs may become exposed to so-called 'genetic risk factors', such as inbreeding depression.

The recovery programme has developed steadily over the past decade, and now incorporates a



CURRENT ACTION

Legal protection

The agile frog is now protected under schedule 1 of the Conservation of Wildlife (Jersey) Law 2000. The law protects the adult frog, tadpoles and spawn from any interference. The law also forbids the release of non-native species in the Island. This law requires proper enforcement, and its existence should be publicised further.

number of facets.

Captive/semi-captive breeding - Captive breeding takes place at a number of outdoor compounds around the island, with the intention of maintaining a self sustaining captive 'safety net' and to generate surplus tadpoles and frogs for reintroduction.

Creation of a new 'wild' site - For the past 4 years, captive bred tadpoles and frogs have been released into a new,



One of the captive breeding compounds situated at Frances Le Sueur Centre.

specially selected site at Les Landes, in an attempt to create an additional 'wild' population.

'Headstarting' of wild spawn - Spawn is collected from the wild, the tadpoles hatched in captivity, and then released back into the wild at the time of metamorphosis. By taking the spawn into captivity at the most sensitive stage

of the life-cycle, it is intended to increase recruitment to the wild population.

Protection of wild spawn - Wild spawn is, in the main, kept *in situ*, but protected from newt and duck predation using plastic mesh baskets or willow "corrals".

Monitoring of wild and release sites - The amount of spawn is monitored annually, and night sorties made to sites during the breeding season in an attempt to count reproductively active adults.

Monitoring of water quality - This has provided clear evidence of the potentially harmful levels of certain chemicals that are appearing in Jersey's water bodies.

Habitat protection - Seek to facilitate urgent designation of SSI status to important conservation areas, and to encourage other designations to protect small, isolated sites, by lobbying the Planning and Environment Committee.

Habitat Management - Techniques such as the coppicing of willow and the deepening and enlargement of dune slacks at L'Ouaisne have aimed to provide more suitable conditions for the survival of the agile frog at this site. Management plans for both L'Ouaisne and Les Landes are presently being drafted.

Education and publicity campaigns - Television, radio and newspaper coverage, visits to local schools and colleges, and printing of posters and leaflets have all attempted to raise public awareness of the predicament of Jersey's amphibians.

Site safeguards

- 'Stop feeding the ducks' campaign to make people aware of the negative affect feral ducks have on local native wildlife.
- Investigate the potential to locate duck deterrents at, 'at risk' sites.



- A campaign to make people aware of the dangers of pet and feral cats, and to work with local groups who care for and seek to sterilise the local feral cat population.
- Noirmont pond is the most important site for a reintroduction programme. The water quality needs to be monitored, and the group should seek to work with Public Services Department and Agriculture and Fisheries department, who presently administer the land, to ensure that the surrounding land does not return to agricultural use.
- Signs and where necessary fences and gates to protect wild sites
- Pond deepening should be carried out at sites where it is thought that an increased volume of water will extend the period of time that ephemeral ponds remain flooded.
- Control of invasive vegetation where it is thought that this impacts on water quantity, or amount of open water.
- Deepening of other dune slacks at L'Ouaisne

Proposed Action

In-situ and ex-situ species management

- Trial releases of toad spawn and toad tadpoles as well as trial releases of agile frog spawn and tadpoles to 'test' water quality.
- Translocation of animals between sites and captive compounds to ensure a degree of 'outbreeding'. **Caution** disease transmission must be investigated.
- Continued development and maintenance of captive breeding compounds.
- Revised and improved monitoring programme.
- Refinement and continued use of spawn protection mesh cages.
- Identify from Agriculture and Fisheries the proposed future of agricultural fields surrounding Noirmont pond, and
- identification of at least one other site for introduction/reintroduction in addition to Noirmont Pond.

Advisory

- A proposed media and public awareness campaign will act to raise the profile of the agile frog in Jersey. As part of this campaign it must be made widely known that members of the Agile Frog Group are available to provide advice to landowners and tenants on good management of ponds and water courses and for the management of all amphibians.
- The Agile Frog Group should be pro-active in persuading the local Planning Authorities to apply more stringent conditions to any new applications for reservoirs.
- The Group must also be more pro-active in persuading the States of Jersey to increase protection of habitats and species.

International

- In parallel with the local media campaign, a campaign in the national media should be designed to raise awareness of the agile frog to a level of that of the natterjack toad and great crested newt in the UK.
- The Agile Frog Group should seek affiliation with other herpetological groups and universities.

Future research and monitoring

- Habitat preferences and methods of studying the animals movements through these.
- Longevity and mortality.
- Food preferences.
- Genetic diversity.
- Comparison of Jersey and European ecology.
- Survey L'Ouaisné and Grosnez ponds during the breeding season.
- Observe spawn development from egg to metamorphosis and produce a detailed description of the process and the factors affecting the reproductive success.
- Study the interactions with other species present in

the pond (toads, newts, invertebrates, grass snakes) and in the surrounding area (grass snakes, small mammals, birds).

- Determine the frog's over wintering preferences.
- Continue to monitor the captive breeding programme and carry out an investigation of potential reintroduction sites.

Funding

Saving the agile frog through the actions detailed in this document will only be possible by securing adequate funding.

Funding should be sought from a range of sources including;

- States of Jersey
- Corporate sponsorship - Brewery, radio station, Finance institution, Shop, Other
- Other off Island sources
- In association with the States of Jersey arrange for an 'adopt a frog' scheme.
- The group will market the logo and investigate the possibility of merchandising a range of t-shirts, pens etc in association with a local company.

Action Plan Review

- Progress should be assessed/reviewed at least six monthly, in addition to regular AFG meetings.
- Weekly supervision/consultation meetings with students/researchers.
- Action plan updated/revised every 3 years.



This document was prepared by: **Kevin Buley, Richard Gibson & John Pinel** April 2001.

A full, unabridged copy of the *Agile Frog Action Plan* can be obtained from:

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Agile Frog Group

"Working to save the Amphibians and Reptiles of Jersey"