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SESSION IV - Problems of conservation and planning for their solution;  
8. Endangered species

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SECTION IV - Problèmes de conservation et plans d'action pour les résoudre; 8. La conservation des espèces menacées.

TURTLE CONSERVATION PROGRAMME - WESTERN SAMOA

by

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UN PROGRAMME DE CONSERVATION  
DES TORTUES MARINES AU SAMOA-OCCIDENTAL

par

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Summary

This paper is concerned with a current attempt by Western Samoa to stabilize and eventually increase its rapidly dwindling marine turtle population.

Since financial considerations do not allow for ambitious "farming" schemes at this stage, the initial programme is based upon collecting eggs from "wild nests" and in hatching them out in a protected, controlled area. The resultant hatchlings are then marked for future identification, and liberated on the same beaches where they were laid as eggs. Care is taken to ensure that immediate natural predators (ghost-crabs, sea-birds and fish) are kept away at this stage.

So far, in four months operations, over 2,000 eggs have been collected and already some 700 have hatched out and have been released.

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## Résumé

Ce document traite d'une tentative, en cours au Samoa-Occidental, pour stabiliser d'abord et développer ensuite la population des tortues marines, qui décline rapidement.

Comme il est impossible, pour des raisons financières, d'envisager dès maintenant d'ambitieuses entreprises d'élevage, il s'agit pour commencer de ramasser les oeufs dans les "nids naturels" et de les faire incuber dans un enclos surveillé. Dès l'éclosion, les nouveau-nés sont marqués pour pouvoir être identifiés plus tard, et lâchés sur la plage même où les oeufs avaient été trouvés. L'on veille à éloigner pendant l'opération les prédateurs naturels de la petite tortue : ocy-podes, oiseaux de mer et poissons.

Depuis le début du programme, il y a quatre mois, plus de 2.000 oeufs ont été ramassés, quelques 700 ont éclos et les jeunes ont été lâchés.

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The earliest records of Samoa mention the abundance of sea-turtles and also the major part they played as a readily available food-source. At a later date excessive predation, largely on the part of visiting European sailing ships, reduced their numbers to a point where marine-turtles assumed a status-symbol position, becoming ceremonial offerings to high chiefs and orators. As a result of this mode of natural conservation, the population of both Hawksbill and Green Turtle around Western Samoa stabilised and it was not until fairly recently that these reptiles were again threatened.

In 1920 the human population of Western Samoa was estimated to be 23,000. By 1970 it had risen by some 700% to around 160,000. Such a rapid increase resulted in coastal villages spreading along the shore-lines, occupying previously empty beach areas and taking-over established turtle-nesting grounds. Human predation now extended to include the majority of turtle-eggs laid and by 1969 no nesting beaches existed at all on Upolu and only one was still being used on Savai'i. However, three uninhabited off-shore islets, situated at the south-east end of Upolu, were still being utilised by nesting turtles. Unfortunately, these particular beaches were neither extensive nor easily gained by the gravid females and it is doubtful whether more than twenty nests might have been supported by each islet.

Such then, was the position when the Fisheries Division of the Western Samoan Department of Agriculture came into being in January 1970, but it was not until April of that year that an initial survey (by land, sea and air) into the local turtle-resource was made. When the seriousness of the situation was realised, prompt steps were taken to relieve certain survival pressures. Egg-collecting parties were organised and, in order to establish the importance of a turtle-resource at a sociological level "mini-hatcheries" were started in several school institutions, utilising the eggs collected by volunteers. The Hatchlings obtained from these "zoological classrooms" were subsequently liberated on the beaches whence the eggs had come. Further public interest was aroused by articles in the local press and bilingual broadcasts on the radio.

By October 1970, sufficient data and interest had been gained to promote a full "Turtle-Hatchery Project" and the following steps were taken to ensure its success:

- (1) All marine-turtles were included as totally protected species within the draft form of the new Fisheries Act.
- (2) A hatchery-site on the mainland facing the off-shore nesting islets was chosen (a disused banana-packing shed with domestic quarters adjacent provided an ideal situation).
- (3) Application was made to Peace Corps, Washington, to provide a graduate Marine Biologist for a period of two years. Terms of reference of this post were:
  - (a) To establish a successful hatchery
  - (b) To develop nesting beaches
  - (c) To survey local turtle - pasture resources
  - (d) To institute a tagging system for adult turtles and attempt to develop a satisfactory marking system for juveniles.
  - (e) To conduct certain blood-grouping experiments to try and establish turtle sub-populations.
  - (f) To train local counterpart staff for eventual take-over of the hatchery.

- (4) A proposal was made at the SPIFDA conference (South Pacific Islands Fisheries Development Agency) for the Western Samoan Turtle Hatchery project to be recognised and supported by this Agency. This proposal was accepted and become part of the Conference's overall recommendations.

By February 1971, the Peace Corps hatchery manager, Alan Banner, was installed and active work commenced. By May, one of the off-shore nesting beaches had been cleared of excess vegetation and access crawl-ways provided. Some 2,074 eggs had been collected and 607 of these had already hatched. Out of each batch of hatchlings, one or two were kept back in feeding tanks for comparative growth and behaviour studies. Those released were notched in the eighth marginal plate (counting clockwise from the head) for future identification.

Further developments scheduled for this year include:

- (a) a turtle-tagging programme for adult Green turtles;
  - (b) blood sampling and blood-grouping of the local Green turtle population;
  - (c) development of a satisfactory identification process for hatchling turtles;
  - (d) compilation of data regarding available turtle pasturage;
  - (e) compilation of data regarding turtle-breeding areas, local migrations, etc;
  - (f) establishment of a turtle nursery;
  - (g) experiments with various artificial turtle feeds; and
  - (h) coastal aerial surveys for turtle-counts.
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