

Evaluating a Head-Starting Programme for Gharial in Chitwan National Park, Nepal

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Abstract: The Critically Endangered gharial declined exponentially over the 20th century, and now only remains in a few locations in India and Nepal. Head-starting (population reinforcement) has been a widely used gharial conservation strategy, however most programmes have not included a post-release monitoring component, and therefore the efficacy and effectiveness of these interventions hasn't been determined. Chitwan National Park is one of just six remaining gharial populations with recorded reproduction, and since 1978 the conservation strategy has centred on head-starting, with eggs collected from the wild hatched in captivity at the Gharial Conservation Breeding Centre (GCBC). Gharials are reared in captivity until they reach more than 1.5m, at which stage they are released back into the wild. More than 1200 gharials have been released in Chitwan through this programme, and after nearly 30 years of negligible population increases, the population has slowly climbed to over 2000 gharials over the last decade. The improving success of this programme in Chitwan provides an excellent setting to investigate both how to monitor the output of reintroduction programmes, and to provide vital insights on what leads to their success or failure. In this presentation we discuss the results of our ongoing 4-year study to determine the efficacy of the head-starting programme. We will discuss the methodology and technology utilised by the programme, including VHF and GPS telemetry of both recently released and free-living recaptured gharial, and a range of survey techniques. We will share the results these have yielded to explain why the majority of released gharial have not been recruited into the wild population. We discuss our recommendations for the conservation of the gharial in Chitwan, and how our methodology and results could be applicable to other post-release monitoring programmes.

Keywords: Gharial, Head-starting, Telemetry, Conservation, Reinforcement

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