Selected Public's Reaction Following Harvest of American Alligators

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Abstract: People ($N = 1{,}200$) with first hand knowledge of American alligators (*Alligator mississippiensis*) were interviewed in October 1982 by questionnaire to determine observability and reaction following harvest on Newnanas Lake, Alachua County, Florida. Of 353 respondents, 60% enjoyed seeing alligators, and 52% attributed a decline in abundance to harvest. Most (76%) approved of harvest, but 20% believed it was part of the nuisance alligator program. No differences ($P > 0.05$) were detected concerning harvest approval when compared by age, sex, and user group. Males ($P \leq 0.01$) and young (<40 years) ($P \leq 0.01$) respondents derived more pleasure from observing alligators. Additional public information and education pertaining to alligator management are needed.

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Florida residents consider the American alligator a valuable resource for economic, aesthetic, and ecological reasons (Hines and Scheaffer 1977). The 1977 reclassification of the alligator in Florida from endangered to threatened and worldwide demand for crocodilian products have recently increased interest in its economic value. In 1981, the Florida Game and Fresh Water Fish Commission (FGFWFC) initiated an experimental alligator harvest to determine the feasibility of sustained yield management. Because current FGFWFC policies are designed to maintain a healthy, visible alligator population, the effect of exploitation on several populations is being determined. To determine the effect of harvest on alligator visibility and public opinion of management practices, people were interviewed by questionnaire. This paper reports questionnaire results.

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Methods

Between 9–24 October 1982, questionnaires were distributed to 800 sport fishermen at 3 boat ramps and mailed to the 400 residents which were within 1.6 km of Newnans Lake, Alahcua County, Florida. The 21 km shoreline of Newnans Lake is mostly undeveloped. Newnans Lake which is 5 km east of Gainesville, receives frequent public use. The alligator harvest quota on Newnans Lake (set at cerca 15% of animals >1.2 m TL, by night-light counts) for 1982 (the first year of harvest) was 86. Actual harvest that year was 66.

Questions asked in the public opinion survey pertained to perceived abundance and size of alligators, enjoyment derived from seeing alligators, and attitude towards harvest. Categories provided for response to changes in alligator "abundance" were: less abundant, more abundant, no change, and don't know. In addition, respondents were asked to indicate the number of alligators seen during an average day of observation before and after the 1982 harvest. Categories indicating harvest effect on alligator "size" were: haven't seen any alligators, smaller than usual, same size as usual, larger than usual, and don't know. Aesthetic value was estimated by asking whether respondents enjoyed seeing alligators. The five options provided for effect of harvest on "enjoyment" were: decreased enjoyment, increased enjoyment, no effect, and don't know. Categories indicating opinion of "management" procedures were: disapprove, approve, and no opinion. People were asked if they looked for alligators. Sex and age (<40 and ≥ years old) of respondents also were recorded.

Fishermen at boat ramps and area residents were sampled because, as people who use or live near the lake, they would have perceptions of the alligator population. A cover letter and self-addressed, stamped envelope were enclosed with the questionnaire. Chi square tests were used to detect differences in opinion concerning alligator abundance, aesthetic value, and management among age and sex groups of respondents delineated by the questionnaire. Although we believe our sample to be generally representative of important user groups, we did not make any attempt to secure a technically random sample. Therefore, the usual caveats concerning interpretation of inferential statistics certainly apply.

Results

Approximately 30% (N = 353) of the questionnaires were returned. Most (60%) people enjoyed seeing alligators incidental to other outdoor activities. Although not asked, fear of alligators was expressed by 23% of respondents and 20% mistakenly perceived the experimental harvest to be part of the nuisance alligator

Table 1. Public response (N = 353) pertaining to the number of alligators seen during an average day of observation before and after harvest on Newnans Lake, Alachua County, Florida, 1982.

	Before harvest		After harvest	
Number of alligators	*N* respondents	% response	*N* respondents	% response
0–5	75	21.2	176	49.9
5–10	103	29.2	59	16.7
10–15	63	17.8	29	8.2
15–20	37	10.5	22	6.2
>20	53	15.0	15	4.2
Unknown	22	6.2	52	14.7

Table 2. Public opinion (N = 353) concerning the effect of alligator harvest on outdoor enjoyment and alligator abundance on Newnans Lake, Alachua County, Florida, 1982.

Category and response	*N* respondents	% response
Outdoor enjoyment		
Decreased enjoyment	68	19.3
Increased enjoyment	100	28.3
No effect	137	38.8
Don't know	48	13.6
Alligator abundance		
Less abundant	186	52.7
More abundant	12	3.4
No effect	64	18.1
Don't know	91	25.8

program. When asked whether they approved of the harvest, 76% of the respondents approved, 15% disapproved, and 9% had no opinion. Respondents (52%) believed that alligators were less numerous after the 1982 harvest, but only 19% attributed a decrease in outdoor enjoyment to a reduction in alligator visibility (Tables 1 and 2). Thirty-nine percent of the respondents were unsure of any change in the size of alligators observed since harvest, 35% indicated no change, 20% claimed the alligators appeared smaller, and 6% larger.

Female respondents were more likely ($\chi^2 = 23.2$, $P \leq 0.01$) than males to look for alligators but enjoyed them less ($\chi^2 = 56.6$, $P \leq 0.01$). Compared by age, young respondents (<40 years) derived more ($\chi^2 = 33.9$, $P \leq 0.01$) pleasure from the presence of alligators than older respondents (≥40 years). No differences ($P > 0.05$) were detected concerning approval or disapproval of the harvest program when respondents were compared by sex and age. Comparisons of responses from fishermen (N = 224) and residents (N = 109) revealed no differences ($P > 0.05$) in opinions pertaining to alligator enjoyment or harvest approval. However, fishermen were more likely ($\chi^2 = 26.7$, $P \leq 0.01$) to indicate a decline in alligator abundance and express a reduction in enjoyment ($\chi^2 = 19.1$, $P \leq 0.01$) since harvest.

Discussion

Our primary conclusion is that the respondents generally enjoy seeing alligators. Their presence usually adds to the pleasure of an outdoor experience according to the respondents. Therefore, aesthetic as well as economic and ecological worth should be considered in management plans to maximize the total value of the alligator resource. Data also suggest that the respondents found a managed harvest compatible with such aesthetic enjoyment: 76% approved of harvest. It would be unwise, however, to generalize from our sample (of whom 70% were fishermen, who might be biased toward consumptive uses of wildlife) to the entire population of northcentral Florida. Indeed, animal rights groups opposed harvest, and expressed disapproval through public media (Jacobsen 1983) and demonstrations at hunter check stations. Hines and Scheaffer (1977) sampled the general public in Florida and found that >50% favored controlled harvest in remote areas. A misunderstanding of the harvest program may have further biased questionnaire results. People who approve of the nuisance alligator program, but confuse it with the harvest program, may not approve of commercial use. Additional public information and education is needed even after harvest implementation.

Shaw (1974) discussed an age related shift in public attitude towards the nonconsumptive use of wildlife. Similarly, in this study, young respondents derived more pleasure from viewing alligators. Because of the perceived threat to children and pets, lake residents may not experience as great a reduction of enjoyment when alligators are removed. Fishermen may feel less threatened by alligators and be more inclined to indicate a reduction in abundance. In addition, fishermen may be more aware of alligator abundance over the entire lake.

The decline in alligator observability following the 1982 hunt may have been caused, in part, by factors other than harvest. Seasonal weather changes following that year's hunt probably decreased visibility. Wave height and water temperature, in particular, are significant factors affecting alligator visibility (Woodward and Marion 1978). Increased alligator wariness due to hunting also may have reduced visibility. Respondents, however, attributed the decline in observability entirely to harvest.

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