THE ROLE OF NATURALLY OCCURRING WATERHOLES IN DETERMINING THE DISTRIBUTION OF FLORIDA KEY DEER

A Thesis

by

JI YEON KIM

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

May 2008

Major Subject: Wildlife and Fisheries Sciences

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Approved by:

Chair of Committee,	William E. Grant
Committee Members,	Roel R. Lopez
	X. Ben Wu
Head of Department,	Thomas E. Lacher, Jr.

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ABSTRACT

The Role of Naturally Occurring Waterholes in Determining the Distribution of Florida
Key Deer. (May 2008)
Ji Yeon Kim, B.S., Keimyung University
Chair of Advisory Committee: Dr. William E. Grant

The purpose of my research was to test the hypothesis that the availability of fresh, naturally occurring water may limit the distribution of Florida Key Deer (*Odocoileus virginianus clavium*). More specifically, I was trying to determine if there was enough fresh, drinkable water for the deer on each of the islands. To test the hypothesis, I developed a model that simulated likely seasonal fluctuations in fresh water availability in naturally occurring waterholes within the Key Deer range. I estimated 60 scenarios representing different weather (precipitation and evaporation) conditions, different literature estimates of the daily water requirement of Key Deer and also different upper salinity thresholds for drinkable water. Results showed that 1) even under the most favorable conditions in terms of fresh water availability, there was not enough fresh, drinkable water for the deer on any of the islands. Results also showed that 2) high salinity was important in determining the fresh water availability to the deer, in addition to the lack of water volume. Although these results suggest a prolonged seasonal shortage of fresh, naturally occurring water on each of the islands, deer were present on all of the islands during all seasons. One possible reason for the lack of correlation between Key Deer distribution and naturally occurring waterholes is the availability of man-made water sources (e.g. birdbaths, swimming pools).

DEDICATION

Drs. Youhee & Jinghyun Kim,

the world's greatest mom and dad,

for their love, support, patience and encouragement

ACKNOWLEDGEMENTS

I could never have imagined that the trip to my master's degree would have taken this long. Perhaps I have spent more time than the average doctoral student until he/she gets his/her degree and I would like to attribute this to my parents' selecting "Jiyeon" as my name—one of the many meanings of my name is "delayed."

First of all, I would like to express my sincere appreciation to Dr. Jaime Alvarado-Bremer, who invited me to the United States and opened many doors for me. Without his invitation, it would have been impossible for me to experience all of these great things and perhaps I would be walking a totally different path right now. I have not been able to find the right moment to thank him enough and I hope it is not too late for me to express my deep appreciation—thank you very much, Dr. Alvarado!

I would also like to express my gratitude for the great support I have received from the Rotary Foundation and the P.E.O. Foundation. The Rotary Foundation inspired me to consider studying abroad and, during my first two years of graduate study, they provided me with great financial support. A lot of P.E.O. members from many different chapters in Texas, including my designated award chapter (BV), sent me cards and gifts, besides their financial support; and indeed, it was a great encouragement and help to me.

I would like thank two great people who shaped my graduate life, Dr. William E. Grant and Dr. Roel R. Lopez. Without them it would not have been possible for me to pursue my graduate study in Wildlife Science. I feel very lucky that I chose to take Dr. Lopez's course during my first semester, which led me into a whole new world of

Wildlife Ecology. Without his inspiration, I would have pursued a completely different area of study. My advisor, Dr. Grant, rescued me from the depths of despair by accepting me as his graduate student—a desperate Oriental-Asian girl, who was not able to express herself properly. I know it was a more dangerous thing than gambling itself. He deserves a million thanks. Although I will never be able to meet his expectations of me, my completing this project would make him feel better. Regardless of poor performance on my project and frequent ups and downs, he has been patient and very understanding of what I have been doing; and I am deeply grateful to him for his kindness and mentorship. It is my hope that I will be able to justify his loyalty and faith in me in the near future.

It has been a huge relief to have Dr. X. Ben Wu on my committee. Although he was not able to serve as my committee member at first, I have always felt lucky that I was finally able to have him on my committee. Although I have not had many chances to visit him and discuss my findings with him, he has always been very helpful and supportive. I have always felt that he is approachable and accessible; and I am very grateful for that.

I would also like to thank two important people who have helped me pursue my current study as an international graduate student in Wildlife Science; my introductory Ecology professor, Dr. Jongwon Kim, and my Genetics professor, Dr. Min Yoo. Dr. Kim led me to the field of Ecology. He nurtured and supported my decision to pursue my future career in Ecology. Dr. Yoo, on the other hand, inspired in me a strong desire to study abroad, especially in English-speaking countries. He also played an important role when I applied for my undergraduate university's exchange-student program and graduate schools in the States. Although I have not had contact with them for several years, it is my hope that they know how much I appreciate their guidance and inspiration. They were, and continue to be, role models and mentors and have given me confidence in my ability.

I would like to express my deep appreciation to Dr. Ann L. Kenimer, Dr. Jerry R. North, Dr. Hongbin Zhan and Dr. Ned P. Smith for their help. Dr. Kenimer helped me very much in the early stages of my project. Her assistance was invaluable. Dr. North helped me resume my research after my Friday lunchtime seminar. At the time, with all of the questions which I received at the seminar, I was not aware in which direction I needed to turn to improve the project; and thanks to Dr. North's kind encouragement, I was able to restart my project. I am very grateful for his help. Dr. Zhan helped me estimate the amount of fresh water discharge on Big Pine and without his help, it would not have been possible for me to feel confident about my assumption. I do hope my frequent visits were not a huge distraction to him. Dr. Smith has been the most helpful and kind person throughout my entire data search process. I tried to contact a lot of people to ask for evaporation data in the Florida Keys (through phone calls, e-mails and letters) and Dr. Smith sent me his evaporation data right after my e-mail. Thanks to his help, I was able to run my simulations with the evaporation data in the Florida Keys and I really appreciate his help very much.

I feel very fortunate to have had two distinct families here. Although there were a lot of times when I was away from the lab, it was a great relief to have lab family members

(Edith, Karine, Krystal, Magui, Mike, Todd and Tulia) which I could come back to. Even though I never had a chance to express my appreciation to them, I hope by now they know how much their support meant to me. Also, I would like to thank my GTASC family/extended CTE family members for making my graduate student life richer. They have enabled me to experience many different things I would never have experienced in my research and I am very thankful to be a part of this exciting family.

My friends (Haeyoung, Huijing, Inae, Mijung, Sunyoung, Jessica, Marga, Yun and Yang) have been very supportive of my work by frequent phone calls, letters/e-mails and sweet treats. Especially, I would like to thank Huijing and Jessica for their tireless encouragement and friendship.

I would like to take a moment to express my special thanks to the Oehmes (Kim & Ron, Jason, Michael, Sam & Kevin, Maggie and Baxter) for their endless help. They have treated me as part of their family and they have made me feel that I have a home here. Without their love and kindness, I would never have been able to survive here.

My maternal grandmother, Mrs. June Yeol Lee, has been my adviser in my life. She has always provided me with moral support, encouragement, and advice, staying very close to my heart. She was, and is my best friend, sister, mom and grandmother.

Last, but definitely not least, I would like to express my greatest appreciation to my parents, sister, brother and sister-in-law. They have been very supportive, patient and encouraging to me. My completing this project will be a good 60th birthday present for my parents. Love you, Mom and Dad!!!

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1. INTRODUCTION

The Key Deer (*Odocoileus virginianus clavium*) is an endangered species endemic to the lower Florida Keys, which were created as the sea level rose (Lopez 2001, U.S. Fish & Wildlife Service 2002). Key Deer currently occupy 20-25 islands within the boundaries of the National Key Deer Refuge, but approximately 75% of the deer occupy just two islands—Big Pine and No Name Keys (Folk 1991, Lopez 2001). It has been hypothesized that an important fact on influencing the distribution of Key Deer is the location and availability of fresh, surface water (Lopez 2001).

Lopez (2001) noted considerable movement of Key Deer between islands as well as on a given island to meet fresh water needs during the dry season (November to April). Lopez (2001) further suggested the carrying capacity of the Key Deer range varies greatly due to changes in availability of fresh water, which, in large part, is determined by the seasonality of rainfall.

While evaporation is relatively constant throughout the year at about five inches per month, rainfall varies seasonally (Monroe County Environmental Education Task Force, 1991). Only 25 percent of the annual average rainfall of 39 inches falls during the five months from December through April (Monroe County Environmental Education Task Force, 1991). Distribution of rainfall in the Keys during the wet season, May through October, follows a bimodal pattern: the first peak occurs in June and the second during September/October (Monroe County Environmental Education Task Force, 1991).

This thesis follows the style of Ecological Modelling.

Salinity responds to rainfall, which dilutes sea water and thus serves to lower salinity, and to evaporation, which removes only fresh water from the surface and thus increases salinity (Monroe County Environmental Education Task Force, 1991). In an average year, greater evaporation than precipitation during winter months results in higher salinities at that time (Monroe County Environmental Education Task Force, 1991). Year-to-year variation in rainfall, however, can affect the average annual cycle of salinity significantly (Monroe County Environmental Education Task Force, 1991).

Since there are no fresh water streams or rivers in the Florida Keys (which leaves rainfall as the only source of fresh water) (Jack C. Watson Wildlife Trail), fresh surface water is available to Key Deer in the form of natural waterholes. Forty-six percent of permanent waterholes (n=276) within the Key Deer range are on Big Pine Key (Lopez 2001) (Fig. 1). Approximately 86% of fresh waterholes were found in areas (pinelands, hammock, freshwater marsh) protected from normal tidal fluctuations (Lopez 2001). This suggests that islands with significant upland vegetation, such as Big Pine Key, are particularly important to the overall viability of the deer herd due to the abundant amount of fresh water resources (Lopez 2001, Lopez et al. 2004).

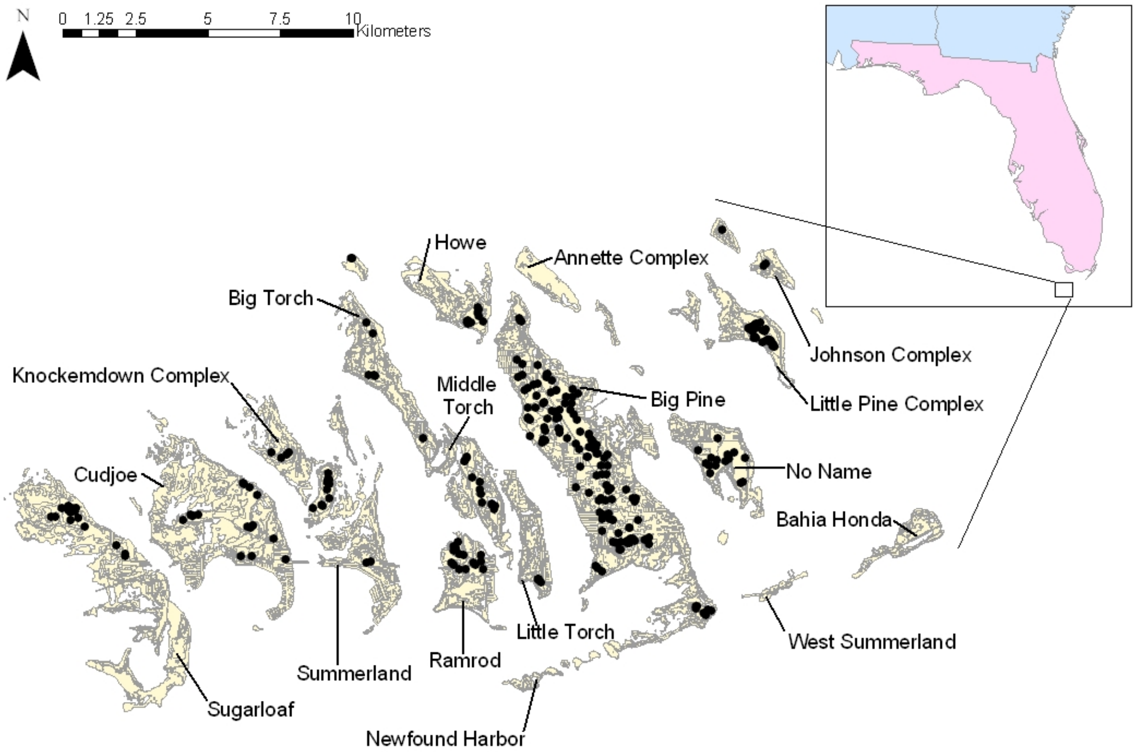

Fig. 1. The distribution of the fresh waterholes (black dots) within the range of the Florida Key Deer (Lopez 2001).

The overall objective of my research is to test the hypothesis that availability of fresh, naturally occurring water may limit the distribution of Florida Key Deer. More specifically,

I will:

(1) Estimate the total water-holding capacity of naturally occurring waterholes on each of the Florida Keys,

(2) Estimate the volume of drinking water required by the deer currently on each of the Florida Keys, and

(3) Develop a quantitative model to simulate likely seasonal fluctuations in the per capita availability of fresh, drinkable water in naturally occurring waterholes on each of the Florida Keys.

2. STUDY AREA

There are 17 islands and/or complexes (groups of islands close to each other where deer dispersal is relatively unrestricted) within the entire Key Deer range (Lopez 2001): West Summerland, Newfound Harbor, Bahia Honda, Johnson Complex, Annette Complex, Little Torch, Howe, Ramrod, Little Pine Complex, Middle Torch, Summerland, No Name, Knockemdown, Big Torch, Cudjoe, Sugarloaf and Big Pine Keys, and there are a total of 276 waterholes (Lopez 2001) located on the 17 island/complexes (Fig. 1).

3. OBJECTIVE 1: WATER-HOLDING CAPACITY

3.1. Method

The fresh waterhole data were collected by Lopez (2001) from June 11 to August 8, 2001. The fresh waterhole data include the surface area, depth, volume, sediment depth, potential volume and salinity of each of 246 waterholes distributed throughout the Florida Keys (Fig. 1). Lopez (2001) visually estimated surface area, depth, sediment depth and potential volume; and calculated the current (actual) water volume based on these estimates, assuming a cylindrical shape of each waterhole. Lopez (2001) measured salinity using a Yellow Springs Instrument (YSI) conductivity/salinity meter (Model 33, YSI Yellow Springs, Ohio, USA).

The total water-holding capacity of fresh, drinkable water on each of the Florida Keys can be estimated by summing the volumes of all waterholes where salinity is less than 15 ppt; deer will not drink water of higher salinity (Jacobson 1974, Folk 1991).

3.2. Results

The estimates of the total water-holding capacity of fresh, drinkable water on each of the Florida Keys indicated that Little Pine Key has the largest amount, followed by Big Pine, Torches/Ramrod, Cudjoe, Knockemdown/Summerland, Sugarloaf and No Name Keys (Fig. 2). The results further indicated that high salinity was important in determining the fresh water availability to the deer, in addition to the lack of water volume (Fig. 2).

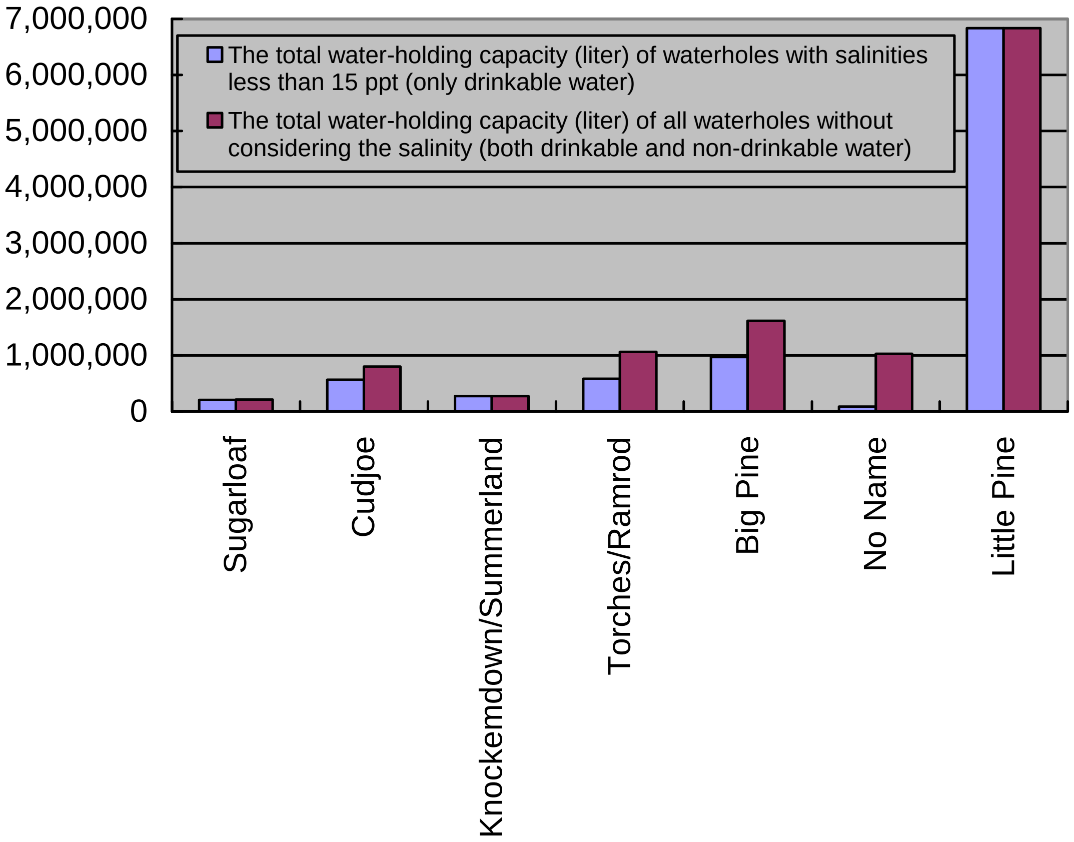

Fig. 2. The comparison between the total water-holding capacity (liters) of waterholes with salinities less than 15 ppt on each island/complex and the total water-holding capacity (liters) of all waterholes (with drinkable and non-drinkable water) on each island/complex.

4. OBJECTIVE 2: WATER REQUIREMENT

4.1. Method

The volume of daily drinking water required by the deer on each of the Florida Keys can be obtained by multiplying the daily fresh water requirement of one deer (1.42 L, Nicole1938, Wildlife management Institute 1984) by the estimated number of deer on each of the Keys (Harveson et al, 2006).

4.2. Results

The volume of daily drinking water required by the deer on each of the Florida Keys indicated that water requirements are highest on Big Pine Key, followed by Torches/Ramrod, No Name, Little Pine, Knockemdown/Summerland, Cudjoe and Sugarloaf Keys (Table 1, Fig.3 and Fig.4)

Table 1. The calculation of the volume of daily drinking water required by the deer on each of the Florida Keys.

	Sugarloaf	Cudjoe	Knockemdown /Summerland	Torches/ Ramrod	Big Pine	No Name	Little Pine
Deer Number in 2000	6	6	8	94	406	78	16
The daily fresh water requirement of one deer	1.42 L						
The volume of daily drinking water required by deer on each island/complex	8.52 L	8.52 L	11.36 L	133.48 L	576.52 L	110.76 L	22.72 L

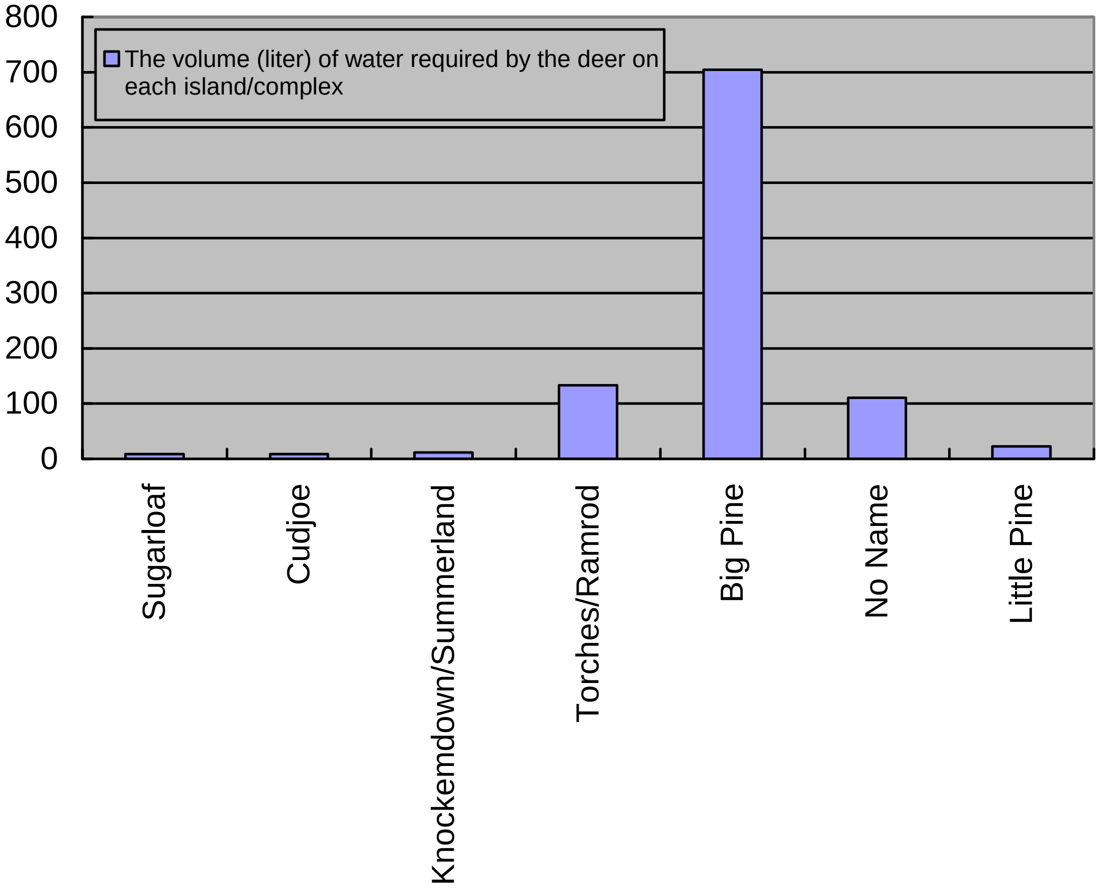

Fig. 3. The total volume (liters) of daily drinking water required by the deer on each of the Florida Keys.

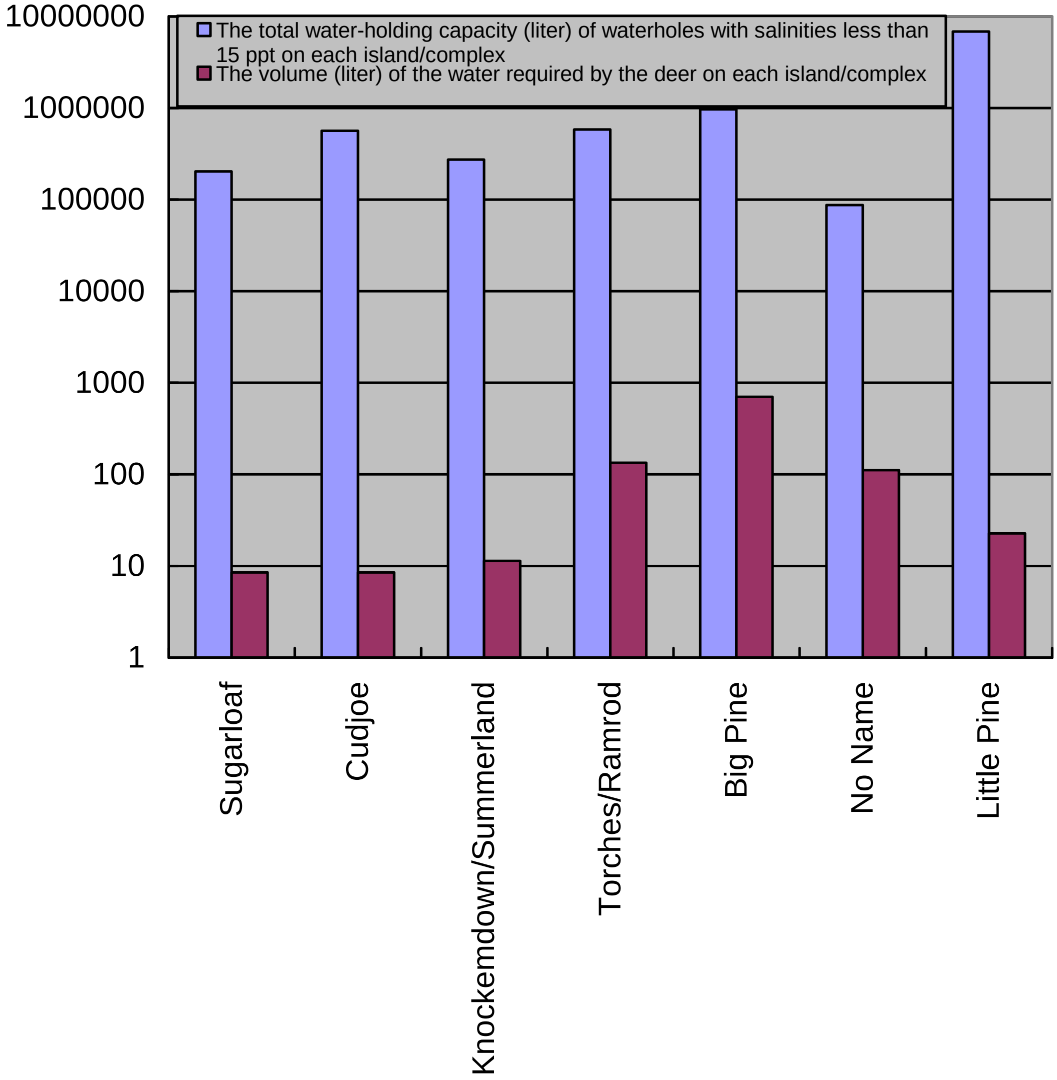

Fig. 4. The comparison between the water-holding capacity of waterholes with salinities less than 15 ppt on each island/complex and the volume of daily fresh water required by the deer on each island/complex.

(Please note the log scale on Y-axis.)

5. OBJECTIVE 3: SEASONAL FLUCTUATION IN PER CAPITA WATER AVAILABILITY

5.1. Method

The model is formulated as a quantitative model to simulate likely seasonal fluctuations in the per capita availability of fresh, drinkable water in naturally occurring waterholes on each of the Florida Keys. Data used for model development included the surface area (ft^2) of each waterhole, the actual volume (ft^3) of each waterhole, the potential (or maximum) volume (ft^3) of each waterhole, the mass of salt (gram) for each waterhole, daily fresh water requirement by Key Deer, Key Deer number in 2000 by island-complex (Lopez 2001), daily precipitation data and daily evaporation data (NOAA 2005a and b).

5.1.1. Overview of the simulation model

I have developed a compartmental model, based on difference equations ($\Delta t = 1$ day) and programmed in STELLA® 7.0.3 (isee systems, Inc. 2001), to simulate likely seasonal fluctuations in availability to deer of fresh, drinkable water in naturally occurring waterholes in the Florida Keys. The model consists of 241 structurally-identical sub-models, one for each of the naturally occurring waterholes which are distributed among seven island/complexes in the Florida Keys (Fig. 5).

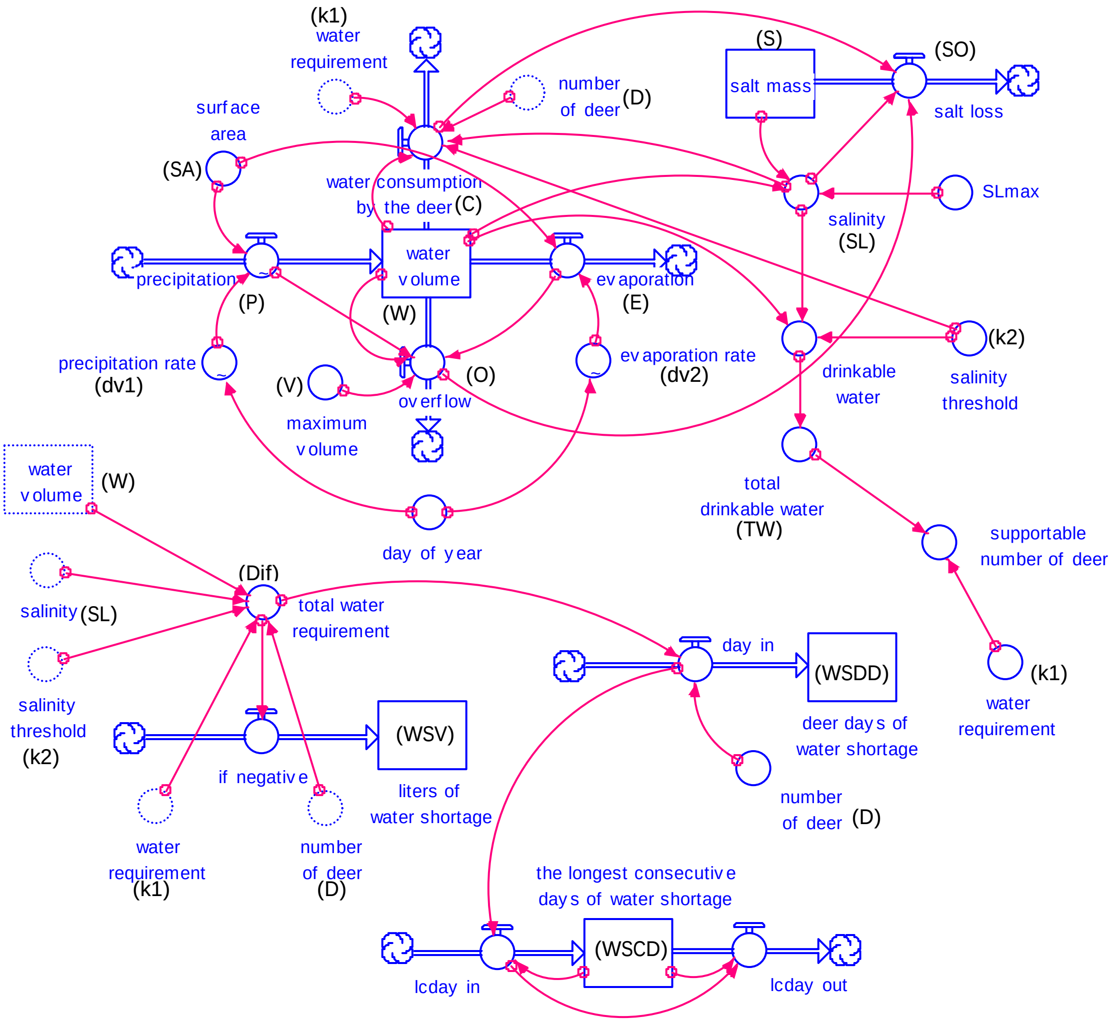

Fig. 5. General structure of a model that simulates seasonal fluctuations of availability to deer of fresh, drinkable water in each of 241 naturally occurring waterholes distributed among seven island/complexes of the Florida Keys (Fig. 1). For each island/complex, the model also calculates three indexes of annual water shortage (see text for details).

The volume of water and the mass of salt in each waterhole are represented as state variables. Water enters via precipitation and is lost via evaporation, which depends on surface area of the waterhole, via consumption by deer, which depends on number of deer and per capita water requirement, and also is lost via overflow, which depends on volume of the waterhole. Salt is lost via consumption by deer and via overflow, depending on water salinity.

5.1.2. Model equations

Changes in water volume (W, ft^3) of each waterhole are calculated as:

$$W_{t+1} = W_t + (P_t - E_t - C_t - O_t)\ \Delta t \qquad (1)$$

where in the estimation of the initial water volume (W_0), I assume a cylindrical shape of each waterhole.

Precipitation (P, ft^3/day) is calculated as:

$$P_t = dv1_t * SA \qquad (2)$$

where $dv1_t$ represents precipitation rate (ft / day) and SA represents surface area (ft^2) of the waterhole.

Evaporation (E, ft^3/day) is calculated as:

$$E_t = dv2_t * SA \qquad (3)$$

where $dv2_t$ represents evaporation rate (ft / day).

Consumption of water by deer (C, ft^3/day) is calculated as:

$$C_t = D * k1 * (W_t / TW_t),\ \text{if } SL < k2 \text{ and } W_t \geq D * k1 * (W_t / TW_t) \qquad (4a)$$

$$C_t = W_t,\ \text{if } SL < k2 \text{ and } W_t < D * k1 * (W_t / TW_t) \qquad (4b)$$

$$C_t = 0,\ \text{if } SL \geq k2 \qquad (4c)$$

where D represents number of deer (D) on the island/complexes, TW represents the total volume (ft^3) of drinkable water on the island, k1 represents per capita daily water requirement of deer (ft^3 / deer - day), k2 represents the upper salinity threshold (parts per thousand (ppt)) for drinkable water, and SL represents salinity (ppt), (see equations 7a and 7b).

Overflow (O, ft^3/day) is calculated as:

$$O_t = (W_t + P_t – E_t – C_t) – V, \text{ if } (W_t + P_t – E_t – C_t) > V \qquad (5a)$$

$$O_t = 0, \text{ if } (W_t + P_t – E_t – C_t) \leq V \qquad (5b)$$

where V represents volume of the waterhole (ft^3). I assume there is no surface runoff from one waterhole entering another waterhole, and there is no horizontal movement of water below the soil surface (Lopez, personal communication).

Changes in salt mass (S, g) of each waterhole are calculated as:

$$S_{t+1} = S_t – (So_t)\, \Delta t \qquad (6)$$

where So_t represents salt loss (g/day), which is calculated as:

$$So_t = ((O_t + C_t) / c1)\, (SL_t)$$

where SL_t represents salinity (parts per thousand (ppt)) and c1 (0.03531467) is a conversion factor based on the assumption that 1 liter (0.03531467 ft^3) of sea water weighs about 1,000 g and contains about 35g of dissolved salts. I assume complete mixing of salt and water within 1Δt (1 day) and a maximum salinity (SL_{max}) of 330 ppt; 330 ppt is the salinity of the Dead Sea, and I assume this is the salt saturation level of water.

$$SL_t = (S_t * c1) / W_t, \text{ if } (S_t * c1) / W_t \leq SL_{max} \qquad (7a)$$

$$SL_t = SL_{max}, \text{ if } (S_t * c1) / W_t > SL_{max} \qquad (7b)$$

The model also calculates, each day, the difference between the total volume of fresh, drinkable (SL < k2) water available and the total water requirement of the deer on each island/complex (Dif), and sums all negative Dif values for a given island/complex to represent annual water shortage in terms of total volume (WSV, ft^3). Annual water shortage also is represented in terms of the total number of deer days of water shortage (WSDD), and number of longest consecutive days of water shortage (WSCD).

5.1.3. Model parameterization

In order to encompass the uncertainty in estimates of model parameters, I parameterized the model using different estimates of (1) precipitation rates (dv1); (2) evaporation rates (dv2); (3) the per capita daily water requirement of deer (k1); and (4) the upper salinity threshold for drinkable water (k2).

I used two precipitation data sets to parameterize dv1, one consisting of daily precipitation (inches) from January 1 to December 31, 1953 from the Big Pine Key Inn weather station and one from January 1 to December 31, 2001 from the Key West International Airport weather station (NOAA 2005a and b). I also used two evaporation data sets to parameterize dv2, one consisting of daily evaporation (inches) from January 1 to December 31, 2001 from the National Data Buoy Office Coastal-Meteorological Automated Network (C-MAN) weather station near Long Key in Florida Bay (Smith, personal communication) and one from January 1 to December 31, 2001 from Belle Glade EXP station (Division 5: Everglades and Southwest Coast, NOAA 2005b).

Since there were no current precipitation data available within the Key Deer range, I used the historic precipitation data from the Big Pine Key Inn station. Among the available historic data from the Big Pine Key Inn station from 1949 to 1955, 1953 was the only year in which daily data were available for all months. There were 2 precipitation data sets available outside of the Key Deer range; Key West station and Marathon station. When I compared the monthly precipitation data from the Key West WB City station, Big Pine Key Inn station and Marathon Vaca Key station from January to December of 1953, the precipitation data from Key West were more similar to Big Pine than were the data from Marathon. Comparison of the 30-year average precipitation data from Key West to the 1953 precipitation data indicated that 1953 was not an unusual year. Since there were no evaporation data available within the Key Deer range, I used the evaporation data sets from stations outside of the range, but within the Florida Keys. I chose the year 2001 (for the Key West precipitation data and two sets of evaporation data) because, among the evaporation data from the C-MAN weather station, 2001 was the only year in which daily data were available for all months. In order to match with the evaporation data of 2001, I tried to find the evaporation data (as an alternative evaporation data set) of 2001 in Florida (Everglades & Southwest Coast and Lower East Coast divisions); and the evaporation data from Belle Glade EXP station was the only data set available for all months.

I used three estimates of the per capita daily water requirement of deer to parameterize k1: 0.71 liters (0.75 quarts), 1.42 liters (1.5 quarts), and 5.962005 liters (c. 6.3 quarts). Depending on conditions, an individual animal's water requirement can vary ten fold from one day to the next (Brown 1985). Water consumption by adult deer depends on temperature, the animal's physical condition and the kind of food available (Wildlife Management Institute 1984). According to Elder (1954), desert mule deer in Arizona in wild conditions consumed 6.3 quarts (c. 5.962005 liters). Nichol (1938, as cited in Elder 1954) reported that captive Rocky Mountain mule deer near Tucson, Arizona drank two to three quarts (1.8927 to 2.83905 liters) per hundredweight per day. Nichol (1936, as cited in Wildlife Management Institute 1984) also reported that when on air-dry feed in spring and autumn, a 45.4 kilogram (100 pound) deer drank approximately 1.42 liters (1.5 quarts) of water per day, but 0.71 liter (0.75 quart) or less when succulent browse was available (Wildlife Management Institute 1984).

I used five estimates of the upper salinity threshold for drinkable water to parameterize k2: 14 ppt, 14.5 ppt, 15 ppt (Jacobson 1974, Folk 1991), 15.5 ppt, and 16 ppt.

5.2. Simulation Results

To examine the effects of the uncertainty in these parameter estimates on model predictions of annual water shortage for each island/complex, I ran 60 1-year simulations representing each of the 60 possible combinations of parameter estimates (2 estimates of dv1 x 2 estimates of dv2 x 3 estimates of k1 x 5 estimates of k2) (Fig. 6). For each of these simulations, I monitored the three indexes representing the seasonality of annual water shortage for each island/complex. The indexes of annual water shortage include liters of water shortage (WSV), deer days of water shortage (WSDD) and the longest consecutive days of water shortage (WSCDD), per each individual island/complex.

The results indicated that even under the best case scenario, each of the islands experienced seasonal fresh water shortages with the greatest shortage occurring on Big Pine Key (Fig. 7). The results also showed that regardless of the precipitation or the evaporation data sets, the daily fresh water requirement was more important than the upper salinity threshold in determining level of water shortage. According to the results, the amount (liters) of fresh water shortage with the higher daily fresh water requirement was over 8 times that of the lower daily fresh water requirement. The changes in the upper salinity threshold for drinking water did not make any noticeable difference in terms of the amount (liters) of fresh water shortage and the deer days of water shortage. In other words, deer days of water shortage and liters of water shortage are least sensitive to the upper salinity threshold for drinking water.

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	**1**	**6**	**11**
14.5 ppt	**2**	**7**	**12**
15 ppt	**3**	**8**	**13**
15.5 ppt	**4**	**9**	**14**
16 ppt	**5**	**10**	**15**

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	**16**	**21**	**26**
14.5 ppt	**17**	**22**	**27**
15 ppt	**18**	**23**	**28**
15.5 ppt	**19**	**24**	**29**
16 ppt	**20**	**25**	**30**

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	**31**	**36**	**41**
14.5 ppt	**32**	**37**	**42**
15 ppt	**33**	**38**	**43**
15.5 ppt	**34**	**39**	**44**
16 ppt	**35**	**40**	**45**

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	**46**	**51**	**56**
14.5 ppt	**47**	**52**	**57**
15 ppt	**48**	**53**	**58**
15.5 ppt	**49**	**54**	**59**
16 ppt	**50**	**55**	**60**

Fig. 6. The experimental design for simulations, representing each of the 60 possible combinations of parameter estimates.

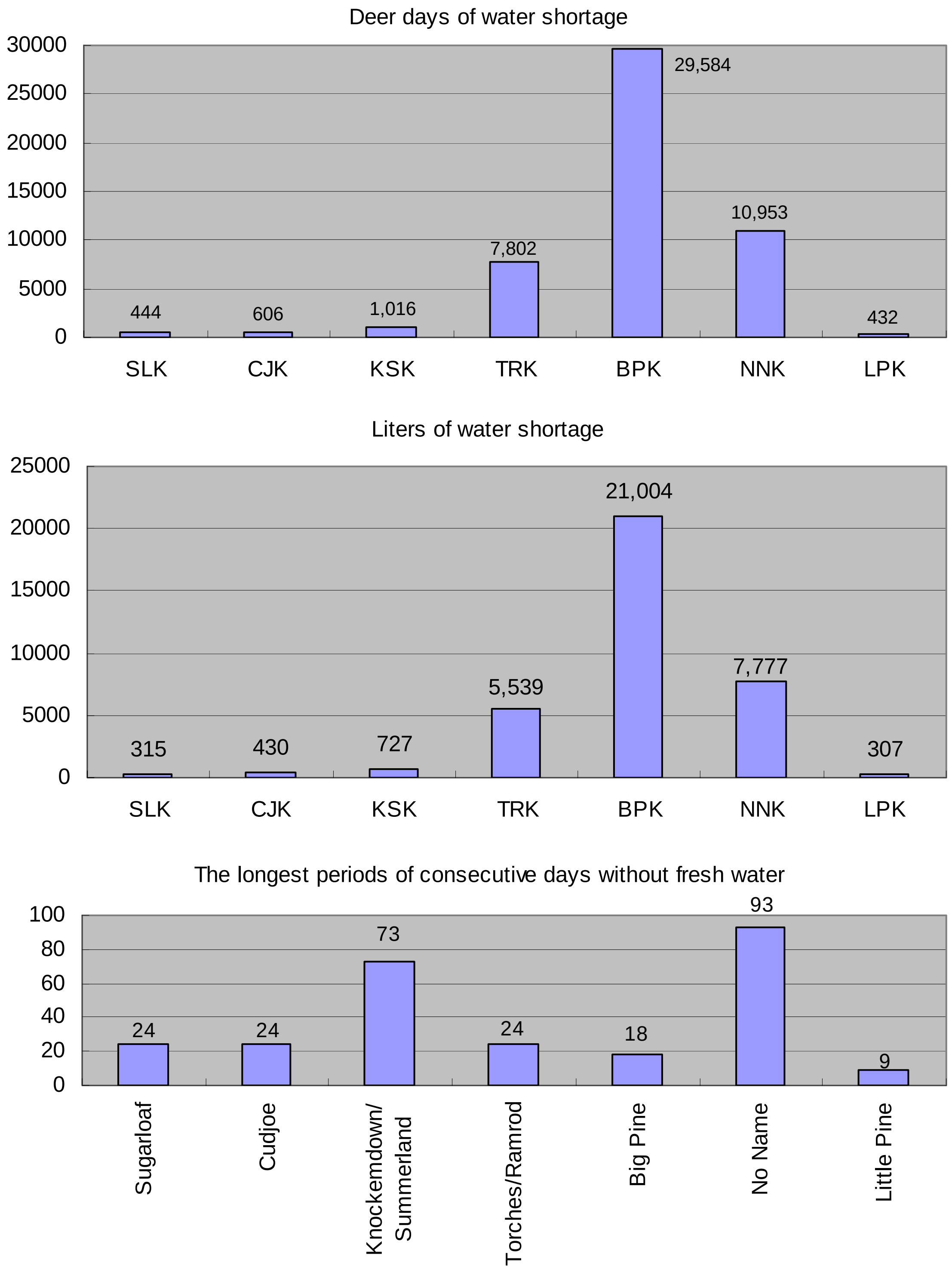

Fig. 7. The summary of simulation results including the comparison of deer days of water shortage, the liters of water shortage, the longest consecutive days without fresh water among 7 island/complexes under the most favorable conditions.

Since the results from the 60 1-year simulations showed that there was not much difference when I used different salinity thresholds, I used 12 simulations (2 estimates of dv1 x 2 estimates of dv2 x 3 estimates of k1 x fixed estimates of k2, 15 ppt), instead of 60 simulations (Table 2) and recorded the three indexes of annual water shortage (WSV, WSDD, WSCDD) for each island/complex. I, then, changed the upper salinity threshold for drinkable water (k2) to 330 ppt, the saturation level of the salt (in order to eliminate the threshold) and ran 12 simulations (2 estimates of dv1 x 2 estimates of dv2 x 3 estimates of k1 x fixed estimate of k2, 330 ppt). And I observed each of the 3 indexes, liters of water shortage (WSV), deer days of water shortage (WSDD) and the longest consecutive days of water shortage (WSCDD), per each individual island/complex. I compared the three indexes of annual water shortage (WSV, WSDD, WSCDD) among 7 island/complexes under the most favorable conditions with 15 ppt and 330 ppt of the upper salinity threshold for drinkable water (k2).

According to the results from the comparison, the main reason for the water shortage varies among islands (Fig. 8). For example, for Cudjoe and Torches/Ramrod Keys, the water volume would be the main reason for water shortage and for No Name Key, the high salinity would be the main reason for the water shortage.

Table 2. The reduced experimental design for simulation.

No.	Conditions
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 15 ppt
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 15 ppt
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt

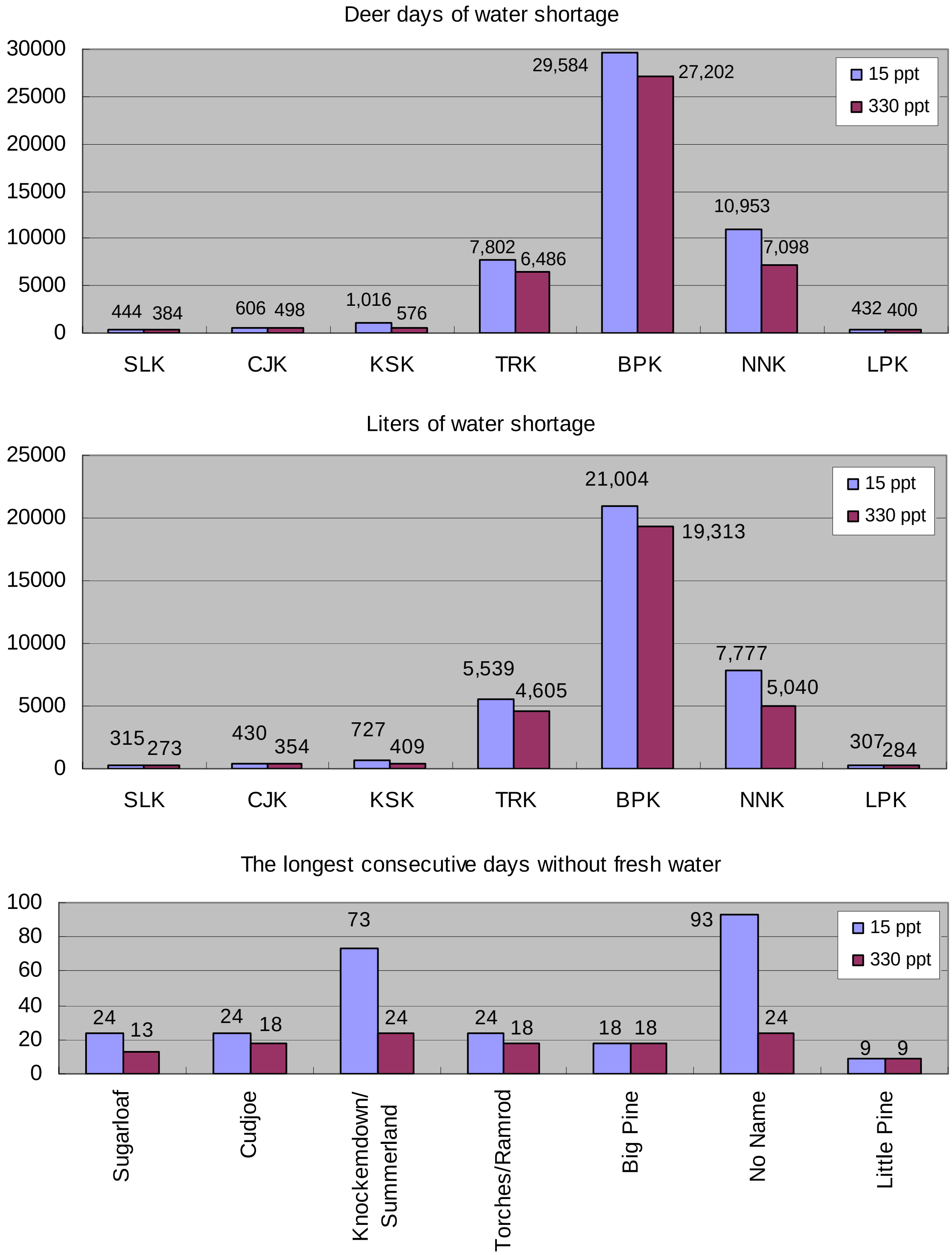

Fig. 8. The summary of simulation results including the comparison of deer days of water shortage, the liters of water shortage, the longest consecutive days without fresh water among 7 island/complexes under the most favorable conditions with 15 ppt and 330 ppt of the upper salinity threshold for drinkable water. (The red bar indicates each parameter with 330 ppt of the upper salinity threshold.)

6. DISCUSSION AND CONCLUSIONS

6.1. Management Perspective

Although the availability of fresh water on each island/complex far exceeds the amount of fresh water required by deer on each island/complex (at the time when the measurement was made), the seasonal shortage of precipitation may result in fresh water shortage. When we compare the seasonal period of precipitation shortage and the period of water shortage, it would be more obvious that the availability of adequate quality water is largely determined by the schedule of the wet and dry rainfall seasons (Lopez 2001) (Fig. 9).

In conclusion, the results indicate there was no relationship between the availability of fresh, naturally occurring water and the distribution of Florida Key Deer.

Possible reasons for this lack of relationship may be (1) the availability of man-made water sources (e.g. birdbaths, swimming pools) (Table 3) and (2) the distance from the main source of population, Big Pine Key (Fig. 10).

However, historically, when there were no man-made water sources available, deer were able to survive on these islands. Most likely, they obtained fresh water from some of the deeper naturally occurring waterholes which did not completely dry up seasonally. In other words, there may be fresh water at the bottom of some of the deeper waterholes which are recharged by the fresh water lens, thus providing the deer with year-round fresh water sources.

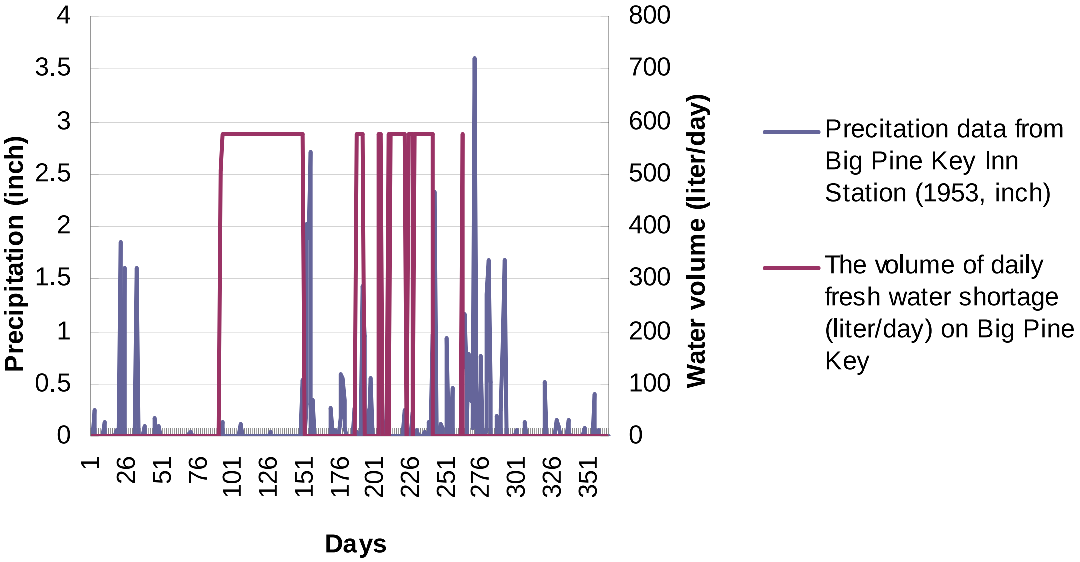

Fig. 9. The comparison between the pattern of precipitation (Big Pine Key Inn Station,1953) data on Big Pine Key and the volume of daily fresh water shortage on Big Pine Key (from the result of 1-year base line simulation).

Table 3. The summary and interpretation of results from a 1-year base line simulation.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	818	576	252	4	6	224	3
Cudjoe	1,022	720	1259	3	6	217	3
Knockemdown / Summerland	1,931	1,360	639	2	8	155	5
Torches / Ramrod	13,439	9,464	1124	1	94	287	33
Big Pine	55,277	38,928	2589	0	406	517	79
No Name	16,558	11,661	42	1	78	90	87
Little Pine	1,068	752	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

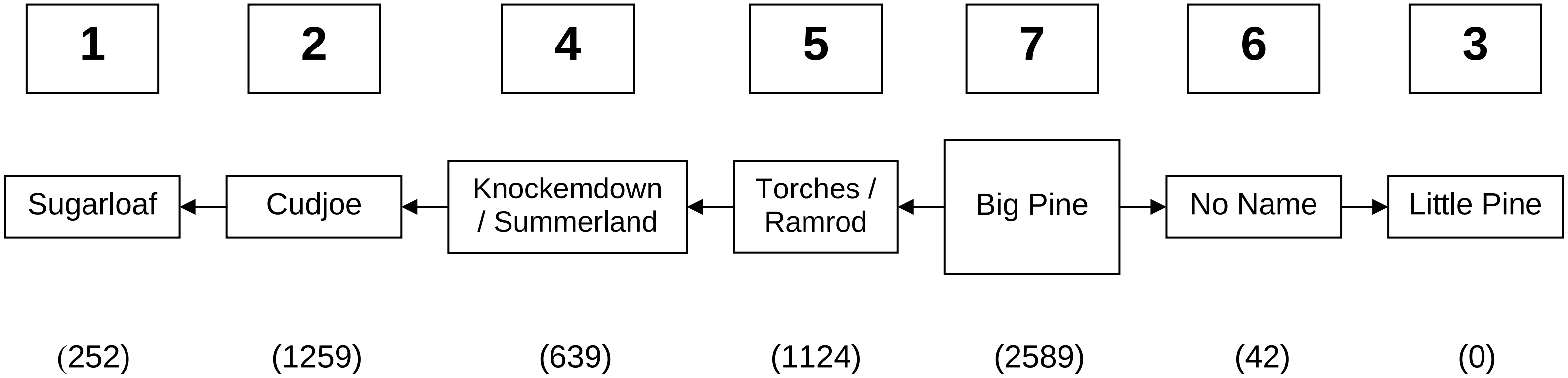

Fig. 10. The diagram showing the relationship between the number of deer days of water shortage from the result of 1-year base line simulation and the observed distribution and dispersal routes of Key Deer (Harveson et al, 2006). The numbers above the diagram indicate the order of deer days of water shortage, with number 1 having the least. The numbers inside of parentheses show the number of houses in 2000.

A recent metapopulation dynamics model of Key Deer (Harveson et al, 2006) suggests that over the next 20 years the Key Deer population could colonize 6 of the 11 island-complexes with viable populations (≥ 50 deer); Big Pine, No Name, Torches/Ramrod, Howe, Knockemdown/Summerland and Little Pine. According to Harveson et al., of the remaining 5 islands, 3 islands (Johnson, Annette and Newfound Harbor) lack the resources to support a minimum viable population; and while Cudjoe and Sugarloaf Keys have the potential to support > 200 deer each, they are not projected to increase to above 20 deer by 2020 regardless of dispersal rate due to distance from source population, Big Pine Key (Harveson et al, 2006). Before considering the use of methods, such as translocations, to supplement deer numbers on Cudjoe and Sugarloaf Keys in order to establish viable populations, my model could be used in evaluating the availability of fresh water on these two islands.

6. 2. Suggestions for Future Studies

Due to the data availability, no current precipitation and evaporation data within the Key Deer range were used in the model. Including current precipitation and evaporation data within the range to the model would result in a more accurate estimate of fresh water availability on each island/complex.

An alternative to collecting precipitation and evaporation data would be to incorporate time series data on salinity, surface area and water volume of each waterhole within the Key Deer range directly within the model, which would improve the model results to a great extent. Currently, only single time measurements of salinity, surface area and water volume of each waterhole are used as the inputs to the simulation model.

Since there are a lot of unmeasured waterholes, especially on Big Pine Key, I used the average value of the island for each unmeasured waterhole. If all the waterhole data within the Key Deer range could be collected and used in the model, we would be able to get a better estimate of the water shortage index on each island/complex.

In this study, I assumed that there is no surface runoff from one waterhole entering another waterhole, and there is no horizontal movement of water below the soil surface. I also assumed that there is no fresh water discharge to the ocean. Including the horizontal movement of water (across the surface and below the surface) and fresh water discharge to the ocean would make the simulation model more complete.

Since hurricanes or tropical storms have been one of the major types of natural disturbances affecting coastal areas in the United States, particularly in the Caribbean Islands, it has long been hypothesized that a significant storm might have a negative impact on the Key Deer (Lopez 2001). Hypothesized impacts of hurricanes on the deer herd include changes to vegetation communities (windthrown trees, broken branches) and a decrease in fresh water availability (Lopez 2001). In the latter case, fresh water is a limiting factor for Key Deer and a significant storm surge may limit the amount of fresh water available in the form of natural waterholes (Folk 1991, Lopez 2001).

The result of Lopez's research (2001) showed that many of the monitored waterholes did not become unsuitable for Key Deer immediately following a storm but rather several weeks or months later. Thus, fresh water may not be limiting to Key Deer until several weeks or months following a hurricane event (Lopez 2001). The result also showed that 50 percent (3/6) of the monitored waterholes found in wetlands were impacted due to the storm surge (Lopez 2001).

This suggests islands with low elevation areas, such as Cudjoe or Sugarloaf, might not sustain stable deer populations over a long period of time due to the limited amount of fresh water that would be available in the event of a hurricane (Lopez 2001). This also suggests that islands such as Big Pine Key are important to the overall viability of the deer herd due to the high number of fresh waterholes in upland areas (Lopez 2001).

Therefore, simulating likely fluctuations in the per capita availability of fresh, drinkable water in naturally occurring waterholes on each of the Florida Keys after a hurricane would allow us to better understand the factors determining the availability of fresh water for the deer herd in the Florida Keys.

In addition to simulating the effects of hurricanes, if we could simulate the effects of the year-to-year fluctuations in the per capita availability of fresh, drinkable water in the waterholes, it would broaden the scope of our understanding of fresh water availability on each of the island/complexes.

Also, the model could be used to simulate the effect of expanding the water-holding capacity of waterholes by removing sediments from the waterholes. This would also give us an idea of how to better manage the naturally occurring waterholes within the Florida Key Deer Range.

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APPENDIX A

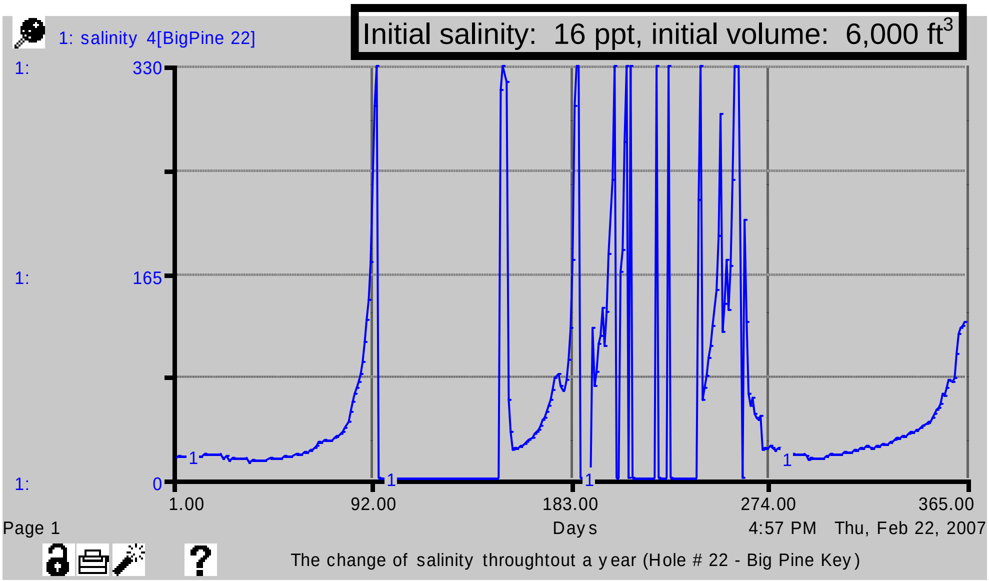


Fig. A1. The changes in salinity (ppt) of a waterhole (hole number 22) on Big Pine Key from the result of a 1-year base line simulation. The range of simulated salinities of the waterhole encompassed the observed salinity (16 ppt; Lopez, 2001).

(Please note that the conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

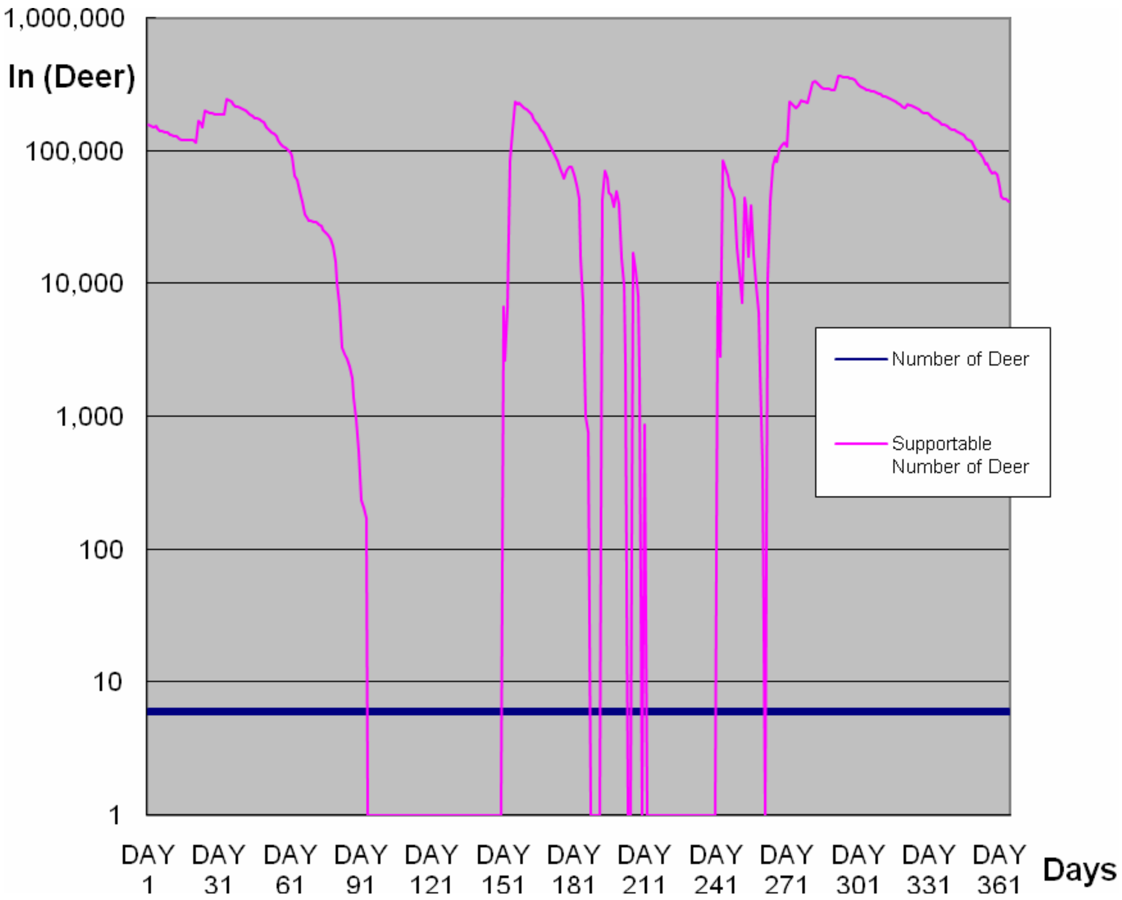


Fig. A2.1. The comparison between the number of deer in 2000 (n=6; Lopez, 2001) and the supportable number of deer on Sugarloaf Key, using the conditions of baseline simulation (15 ppt of the upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station).

(Please note that the Y-axis, the number of deer and the supportable number of deer, is logarithmically scaled in order to show a better relationship between the number of deer and the supportable number of deer. The supportable number of deer was ranged from 0 to 366,477.60.)

(Also note that all 0s in the "Supportable Number of Deer" are converted to 1, in order to use the logarithmic scale.)

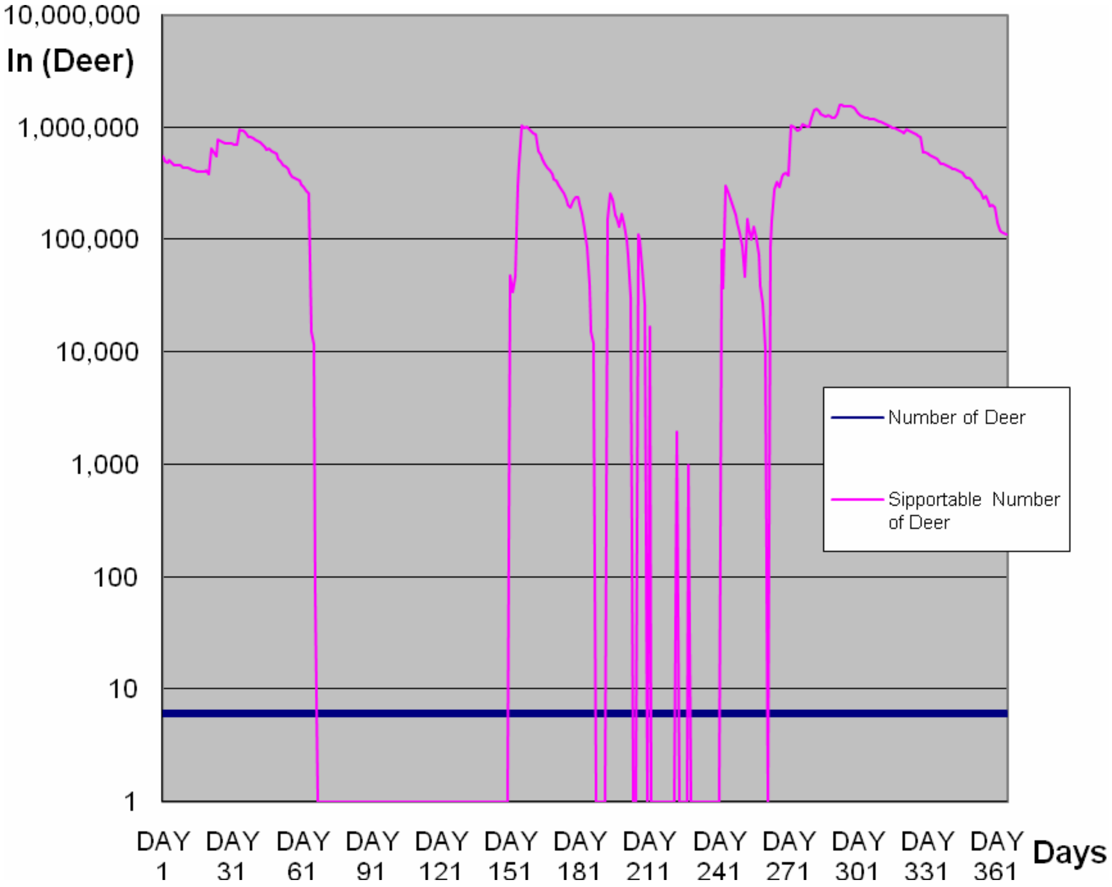


Fig. A2.2. The comparison between the number of deer in 2000 (n=6; Lopez, 2001) and the supportable number of deer on Cudjoe Key, using the conditions of baseline simulation (15 ppt of the upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station).

(Please note that the Y-axis, the number of deer and the supportable number of deer, is logarithmically scaled in order to show a better relationship between the number of deer and the supportable number of deer. The supportable number of deer was ranged from 0 to 1,592,940.48.)

(Also note that all 0s in the "Supportable Number of Deer" are converted to 1, in order to use the logarithmic scale.)

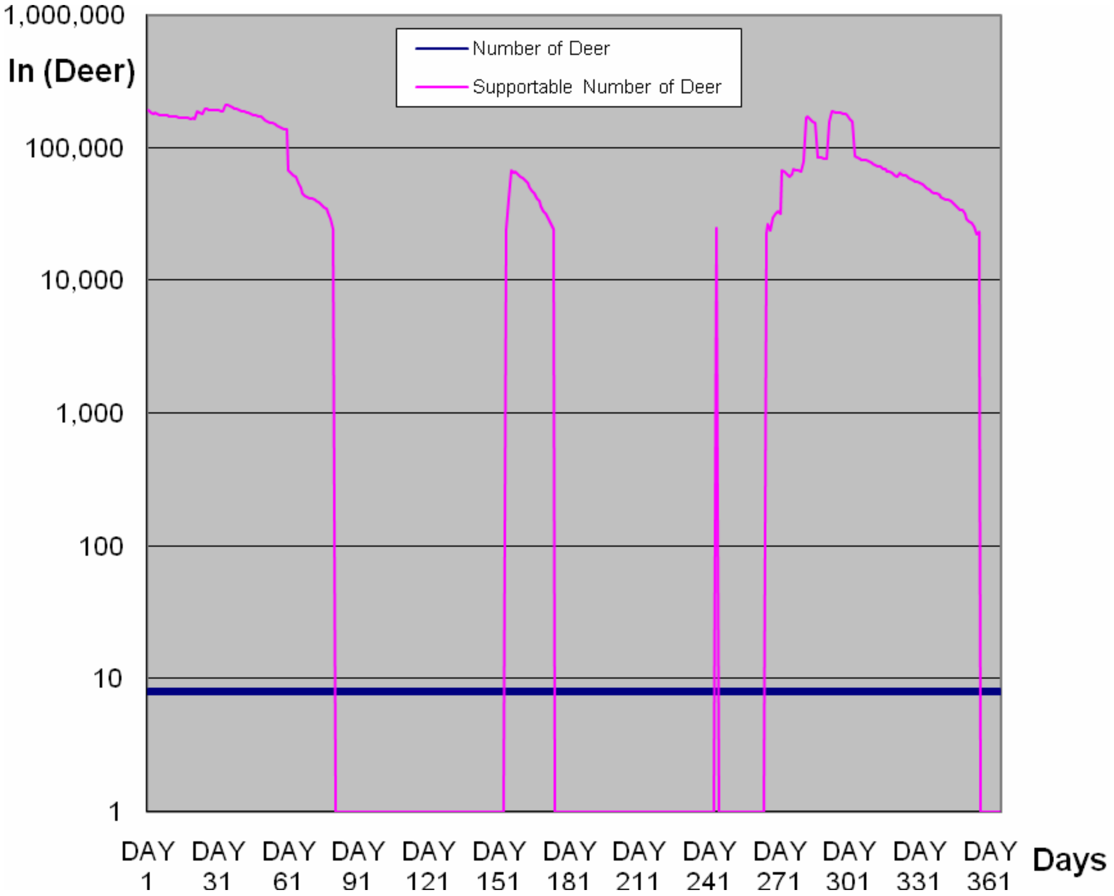


Fig. A2.3. The comparison between the number of deer in 2000 (n=8; Lopez, 2001) and the supportable number of deer on Knockemdown/Summerland Keys, using the conditions of baseline simulation (15 ppt of the upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station).

(Please note that the Y-axis, the number of deer and the supportable number of deer, is logarithmically scaled in order to show a better relationship between the number of deer and the supportable number of deer. The supportable number of deer was ranged from 0 to 209,481.)

(Also note that all 0s in the "Supportable Number of Deer" are converted to 1, in order to use the logarithmic scale.)

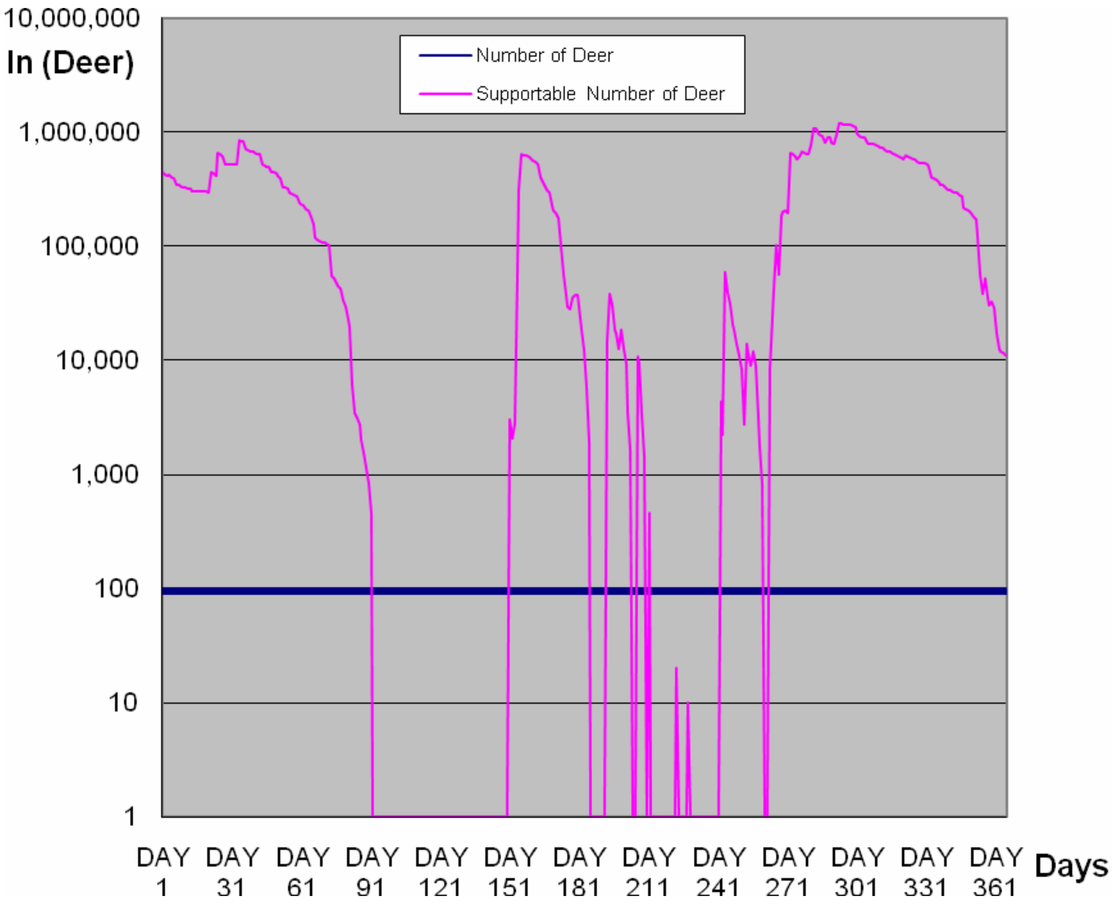


Fig. A2.4. The comparison between the number of deer in 2000 (n=94; Lopez, 2001) and the supportable number of deer on Torches and Ramrod Keys, using the conditions of baseline simulation (15 ppt of the upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station).

(Please note that the Y-axis, the number of deer and the supportable number of deer, is logarithmically scaled in order to show a better relationship between the number of deer and the supportable number of deer. The supportable number of deer was ranged from 0 to 1,188,486.88.)

(Also note that all 0s in the "Supportable Number of Deer" are converted to 1, in order to use the logarithmic scale.)

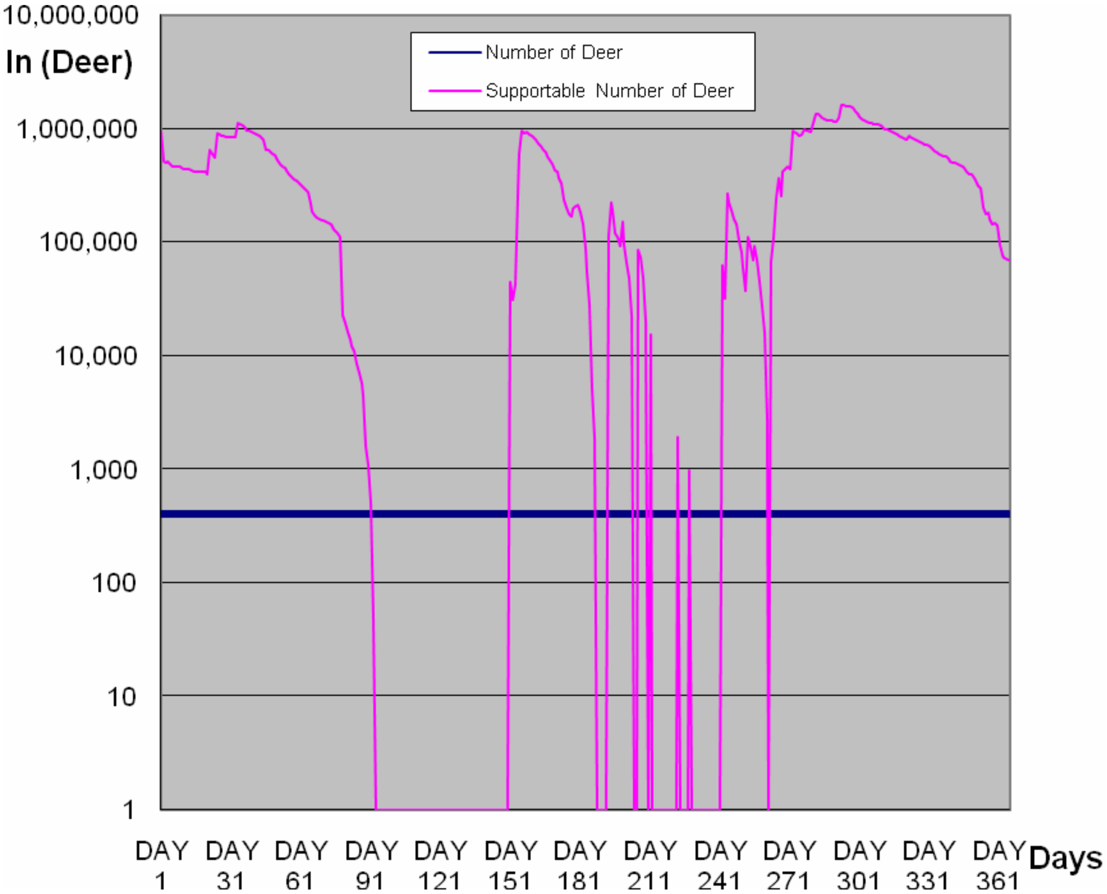


Fig. A2.5. The comparison between the number of deer in 2000 (n=406; Lopez, 2001) and the supportable number of deer on Big Pine Key, using the conditions of baseline simulation (15 ppt of the upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station).

(Please note that the Y-axis, the number of deer and the supportable number of deer, is logarithmically scaled in order to show a better relationship between the number of deer and the supportable number of deer. The supportable number of deer was ranged from 0 to 1,616,314.34.)

(Also note that all 0s in the "Supportable Number of Deer" are converted to 1, in order to use the logarithmic scale.)

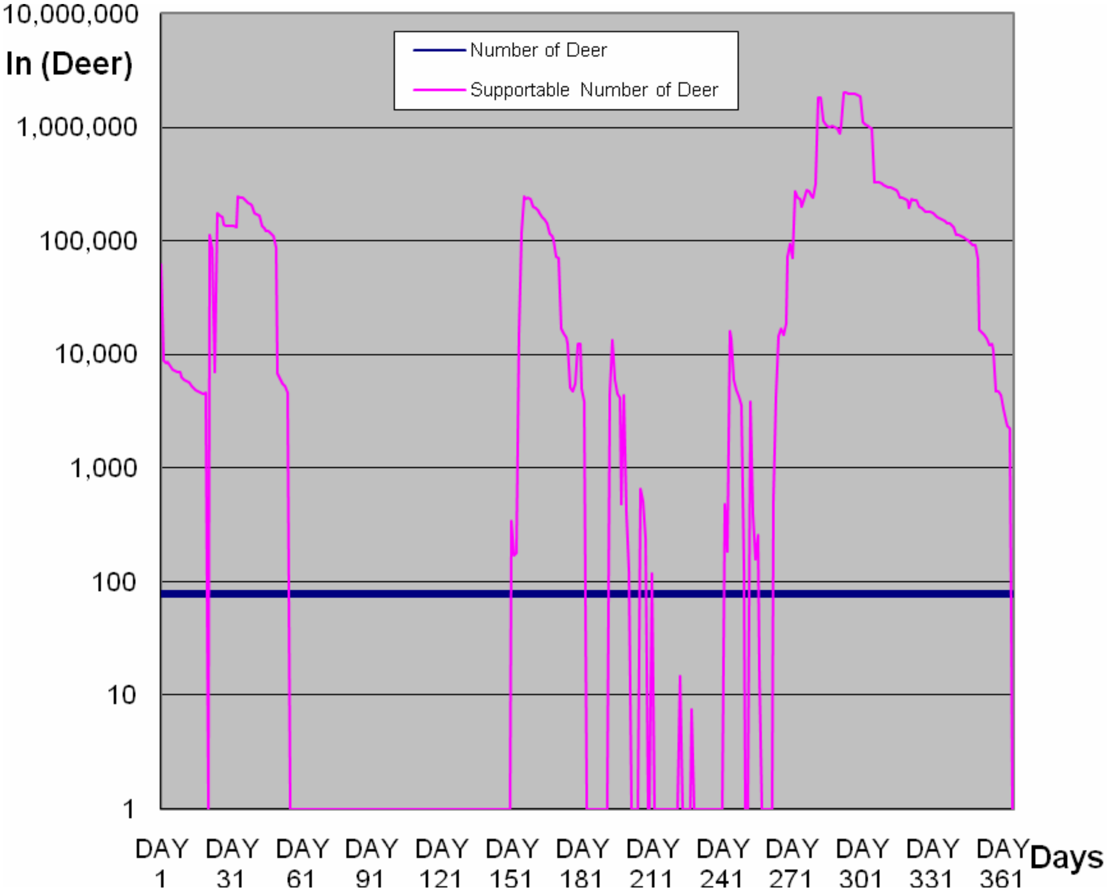


Fig. A2.6. The comparison between the number of deer in 2000 (n=78; Lopez, 2001) and the supportable number of deer on No Name Key, using the conditions of baseline simulation (15 ppt of the upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station).

(Please note that the Y-axis, the number of deer and the supportable number of deer, is logarithmically scaled in order to show a better relationship between the number of deer and the supportable number of deer. The supportable number of deer was ranged from 0 to 2,006,365.93.)

(Also note that all 0s in the "Supportable Number of Deer" are converted to 1, in order to use the logarithmic scale.)

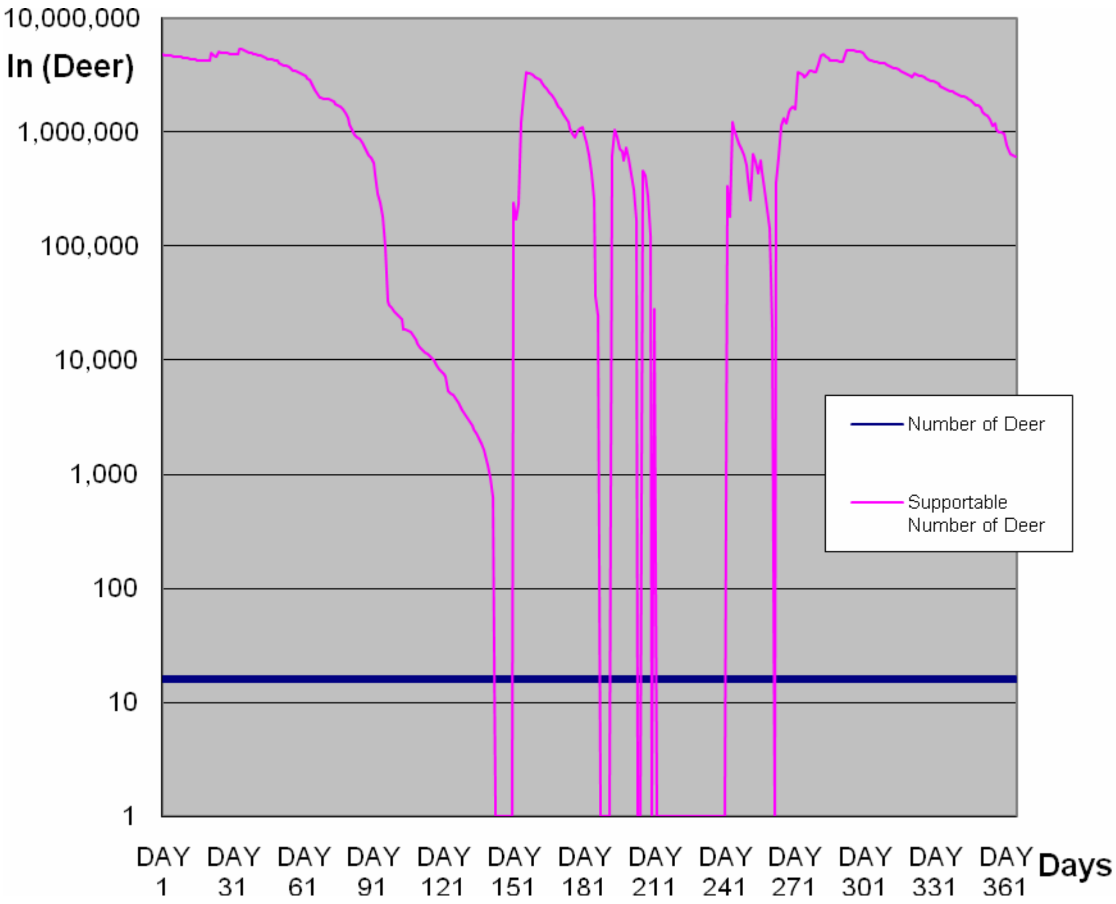


Fig. A2.7. The comparison between the number of deer in 2000 (n=16; Lopez, 2001) and the supportable number of deer on Little Pine Key, using the conditions of baseline simulation (15 ppt of the upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station).

(Please note that the Y-axis, the number of deer and the supportable number of deer, is logarithmically scaled in order to show a better relationship between the number of deer and the supportable number of deer. The supportable number of deer was ranged from 0 to 5,299,513.54.)

(Also note that all 0s in the "Supportable Number of Deer" are converted to 1, in order to use the logarithmic scale.)

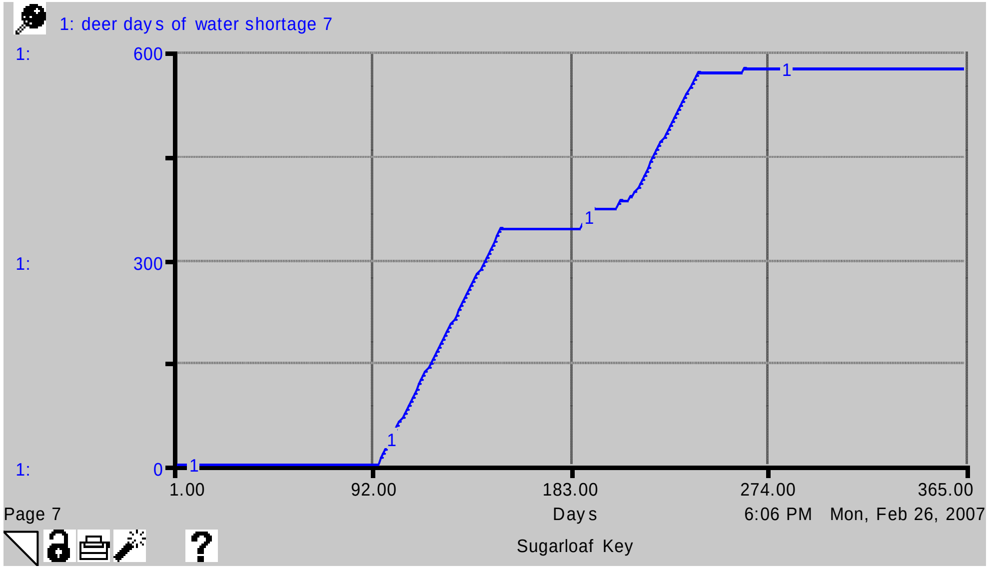


Fig. A3.1. The number of days without sufficient fresh water for the deer on Sugarloaf Key from the result of a 1-year base line simulation.
(i.e. 2 deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.)

(Please note that the conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.)

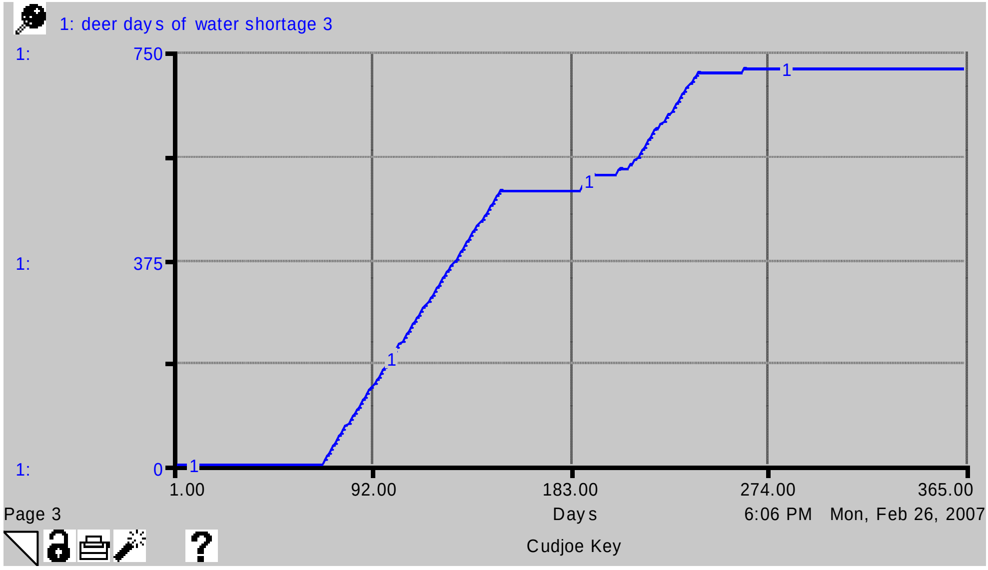


Fig. A3.2. The number of days without sufficient fresh water for the deer on Cudjoe Key from the result of a 1-year base line simulation.
(i.e. 2 deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.)

(Please note that the conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.)

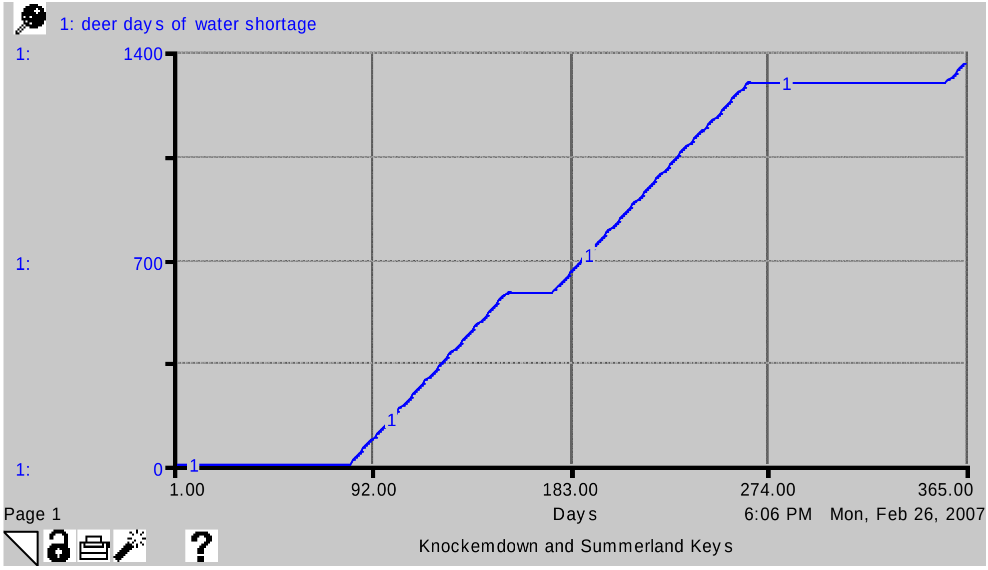


Fig. A3.3. The number of days without sufficient fresh water for the deer on Knockemdown/Summerland Keys from the result of a 1-year base line simulation.
(i.e. 2 deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.)

(Please note that the conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.)

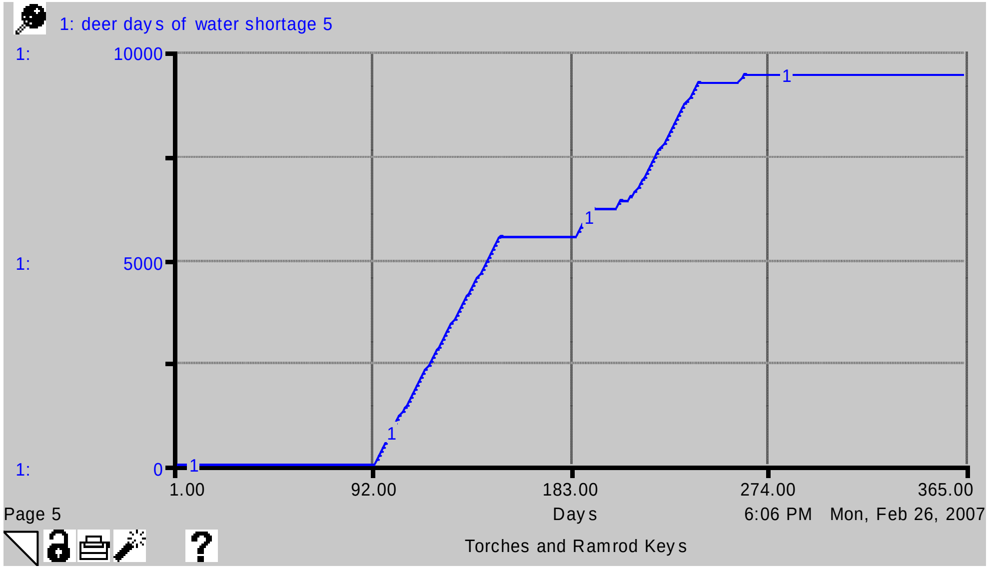


Fig. A3.4. The number of days without sufficient fresh water for the deer on Torches and Ramrod Keys from the result of a 1-year base line simulation. (i.e. 2 deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.)

(Please note that the conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.)

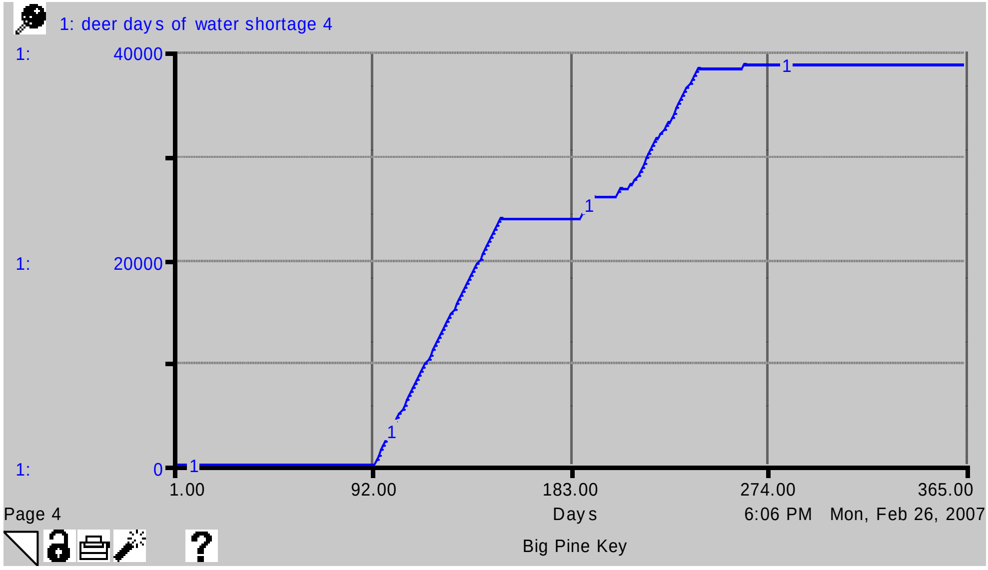


Fig. A3.5. The number of days without sufficient fresh water for the deer on Big Pine Key from the result of a 1-year base line simulation.
(i.e. 2 deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.)

(Please note that the conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.)

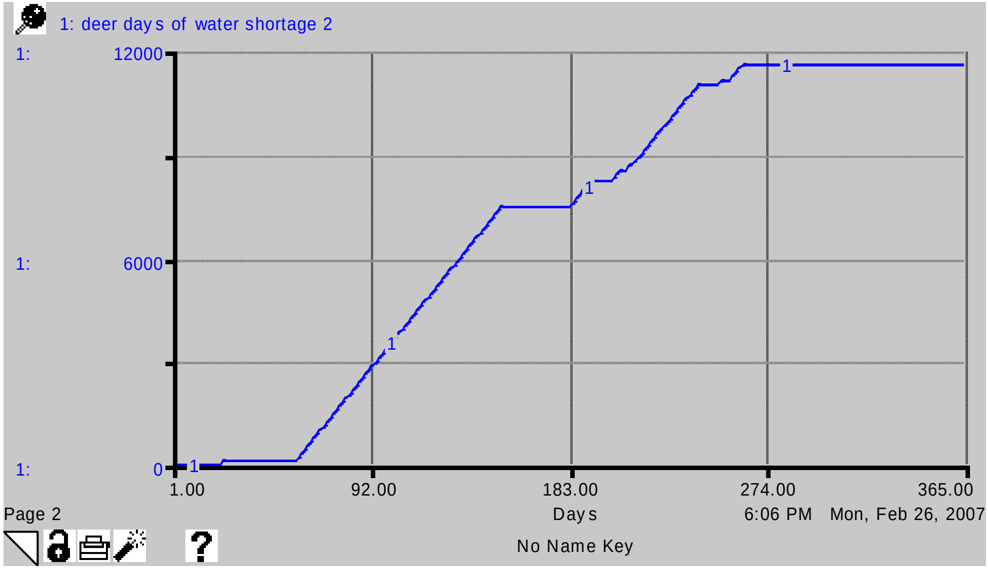


Fig. A3.6. The number of days without sufficient fresh water for the deer on No Name Key from the result of a 1-year base line simulation.
(i.e. 2 deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.)

(Please note that the conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.)

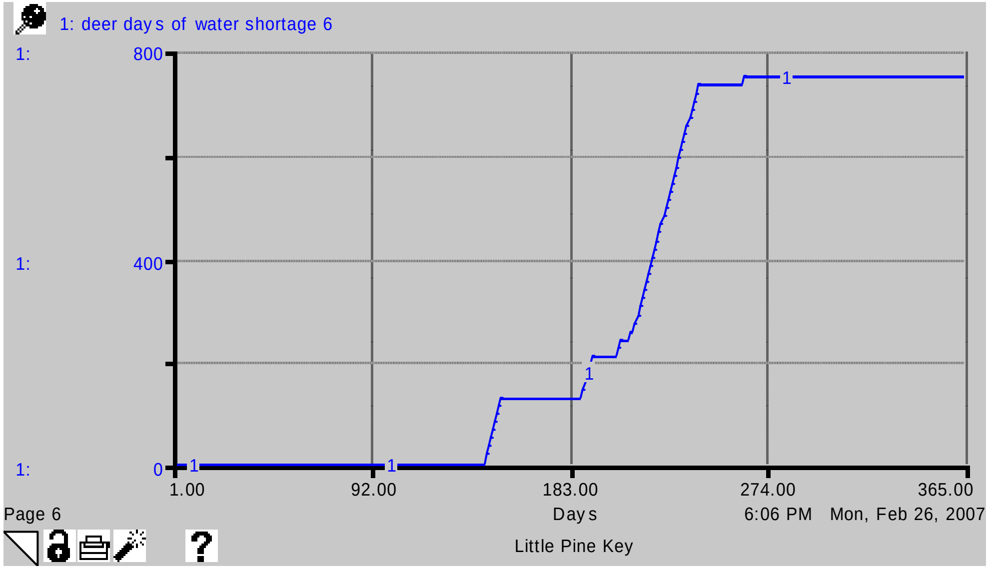


Fig. A3.7. The number of days without sufficient fresh water for the deer on Little Pine Key from the result of a 1-year base line simulation.
(i.e. 2 deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.)

(Please note that the conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.)

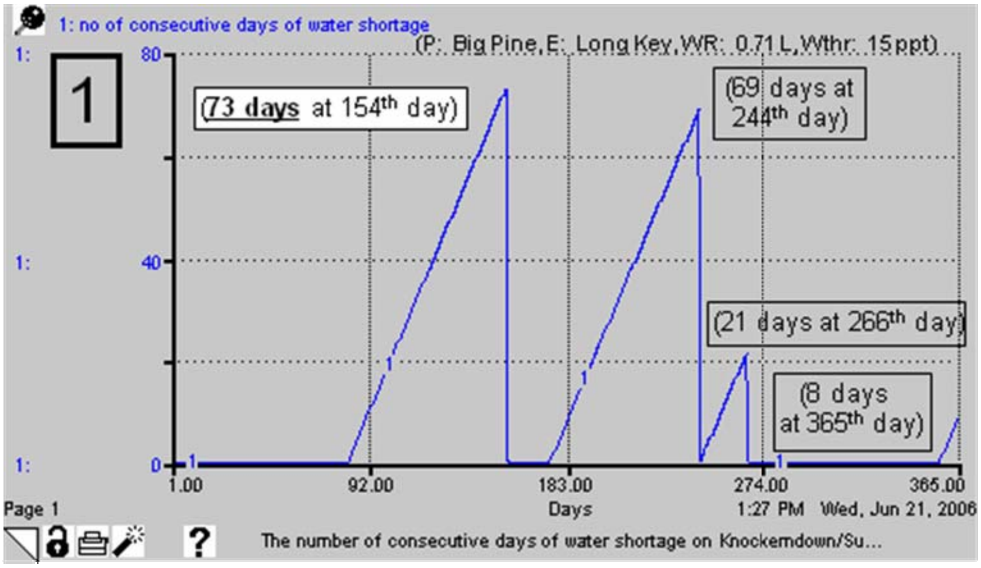


Fig. A4.1. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

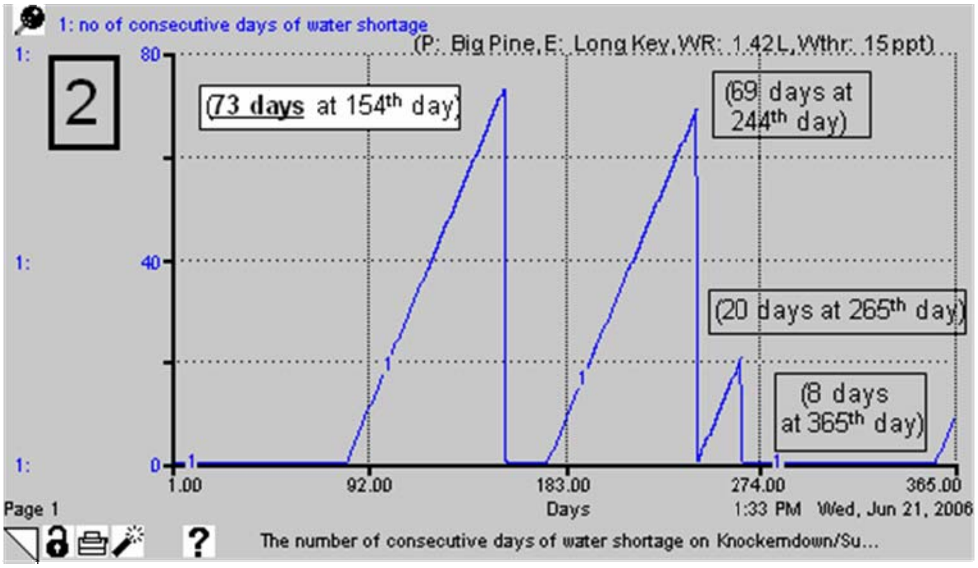


Fig. A4.2. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 1.42 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

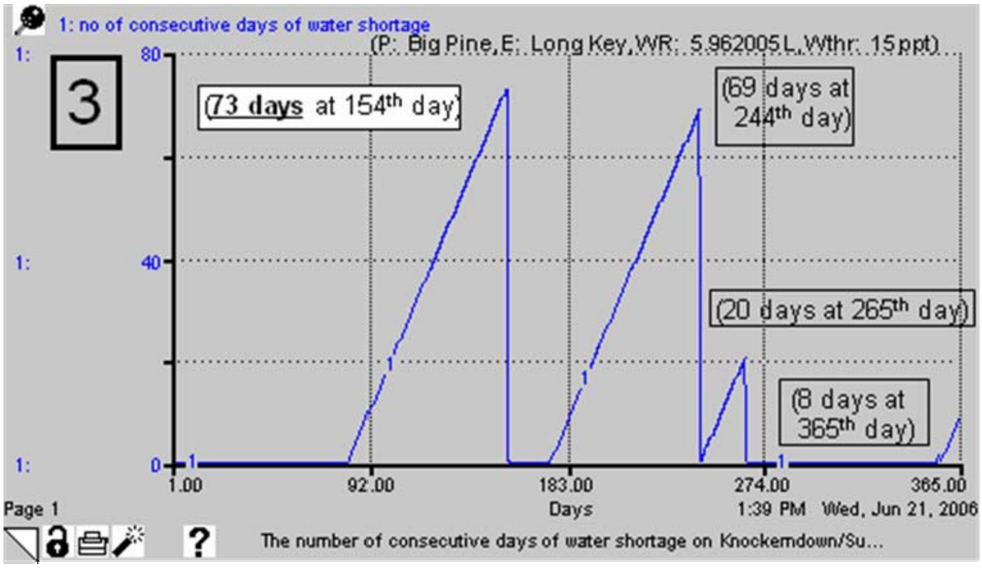


Fig. A4.3. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

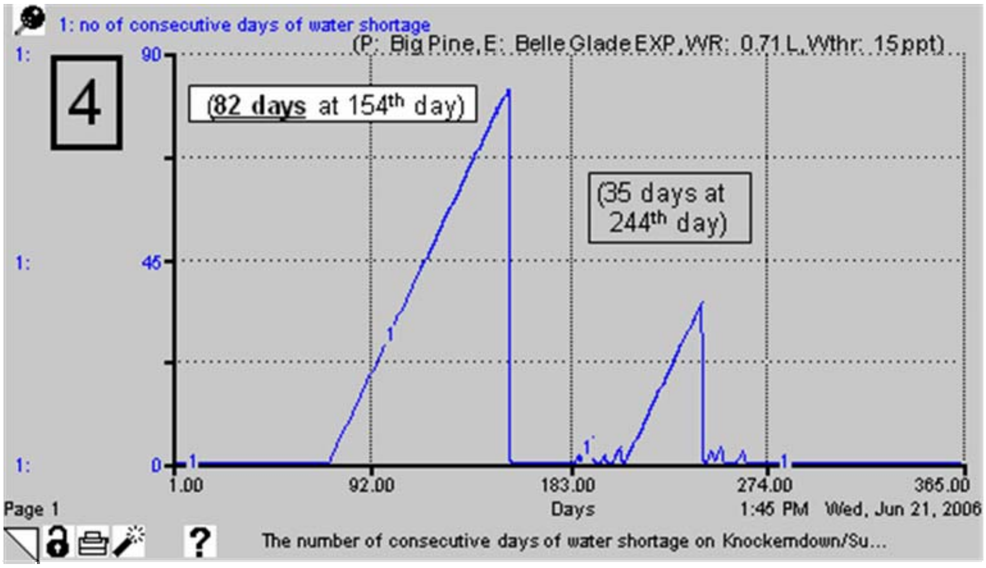


Fig. A4.4. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

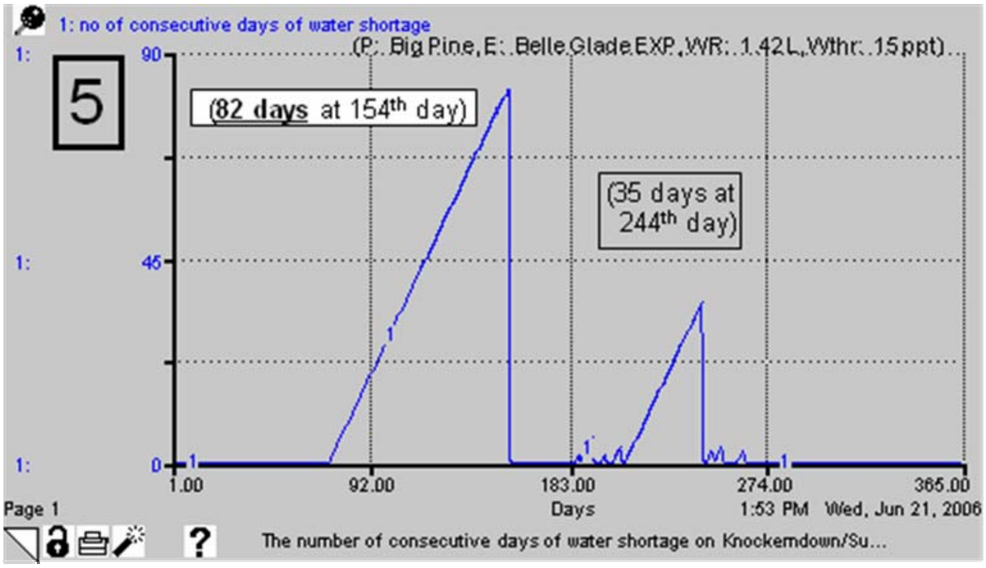


Fig. A4.5. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 1.42 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

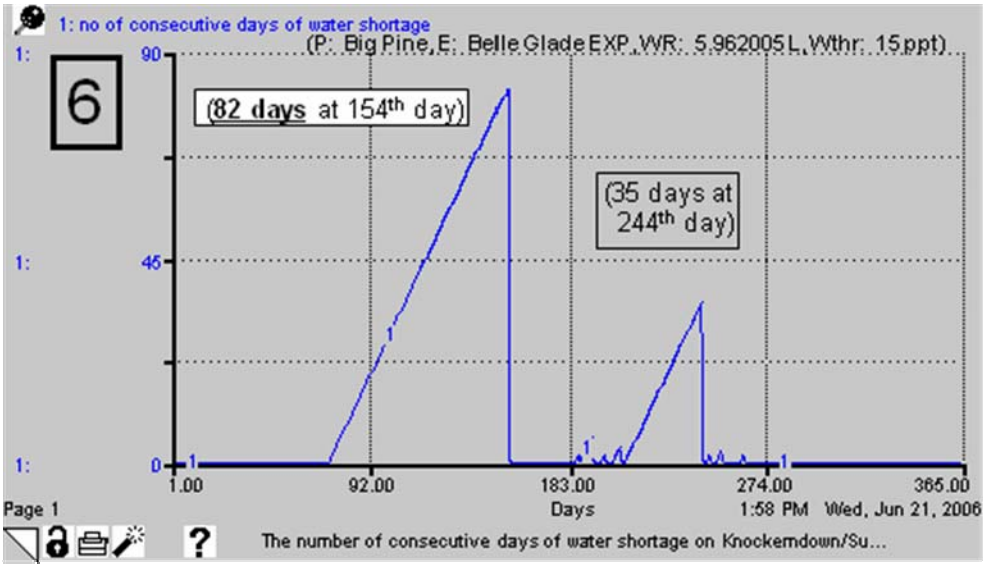


Fig. A4.6. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

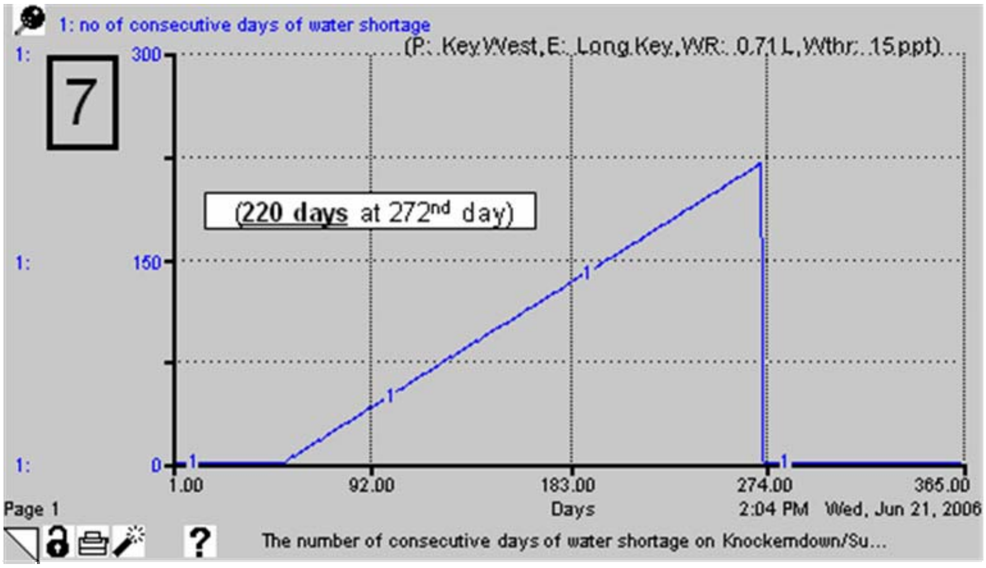
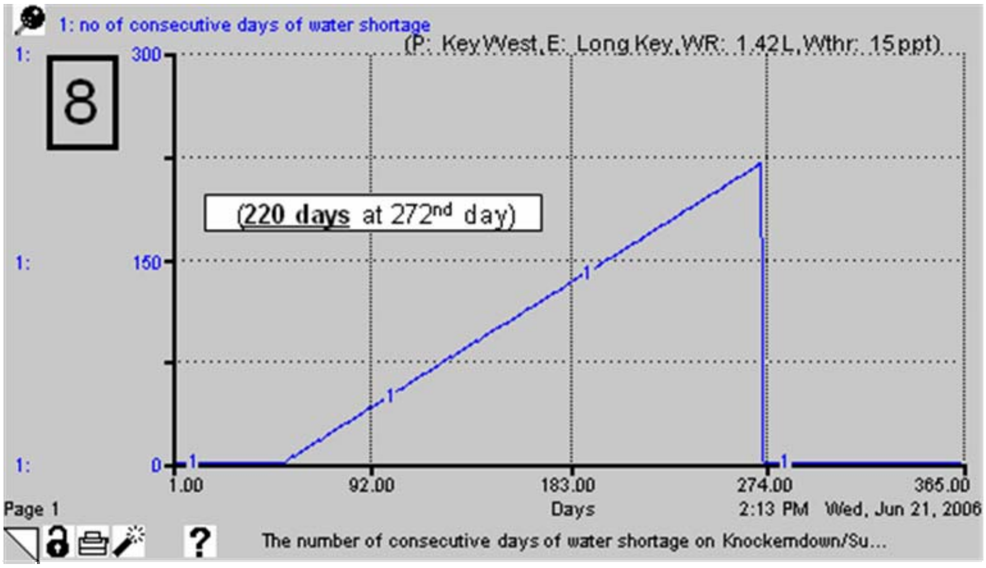


Fig. A4.7. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)



The number of consecutive days of water shortage on Knockemdown/Su...

Fig. A4.8. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 1.42 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

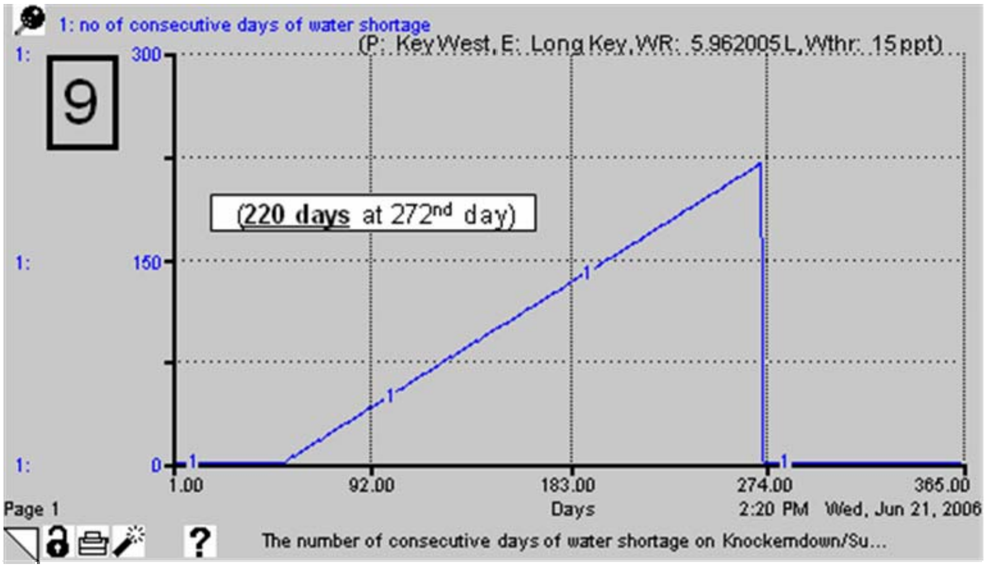


Fig. A4.9. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

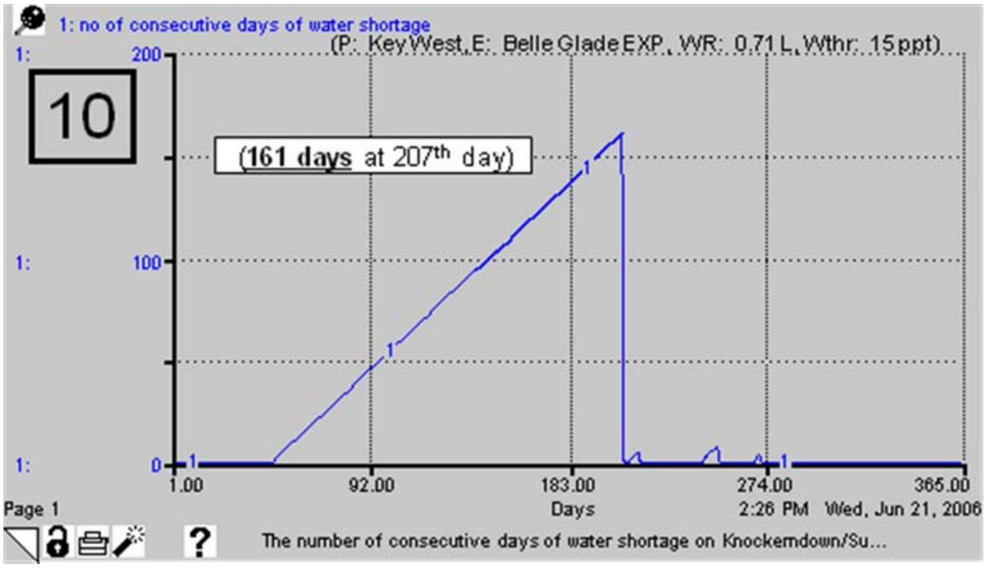


Fig. A4.10. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Key West station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

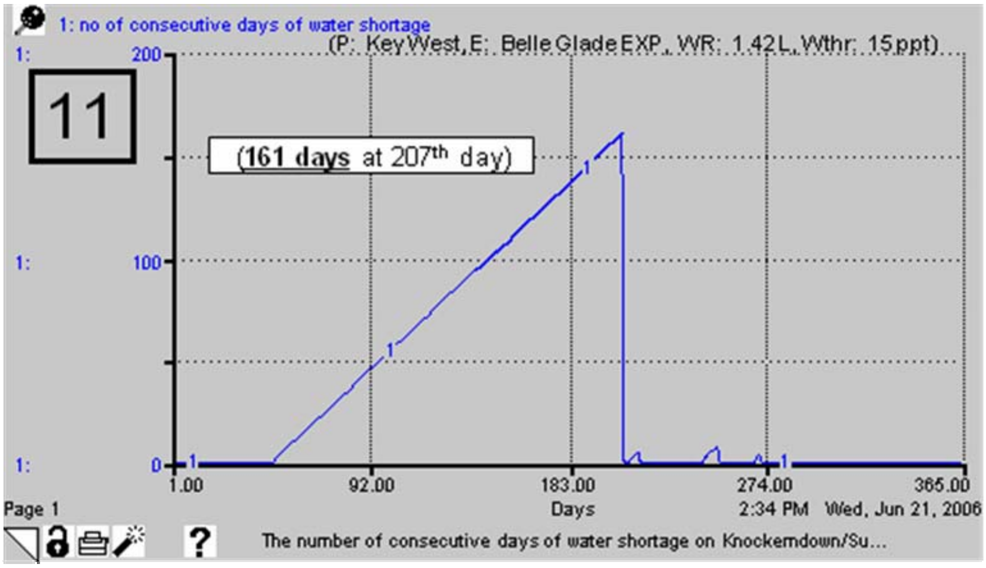


Fig. A4.11. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Key West station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 1.42 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

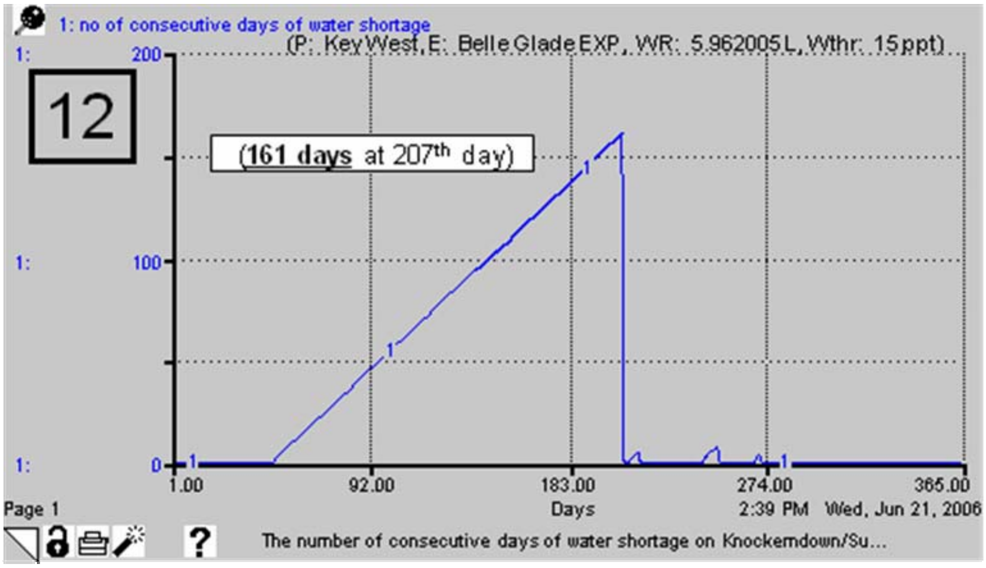


Fig. A4.12. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Key West station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please note that the number inside the rectangular box at the top left corner of the graph corresponds to the simulation number in Table B9.)

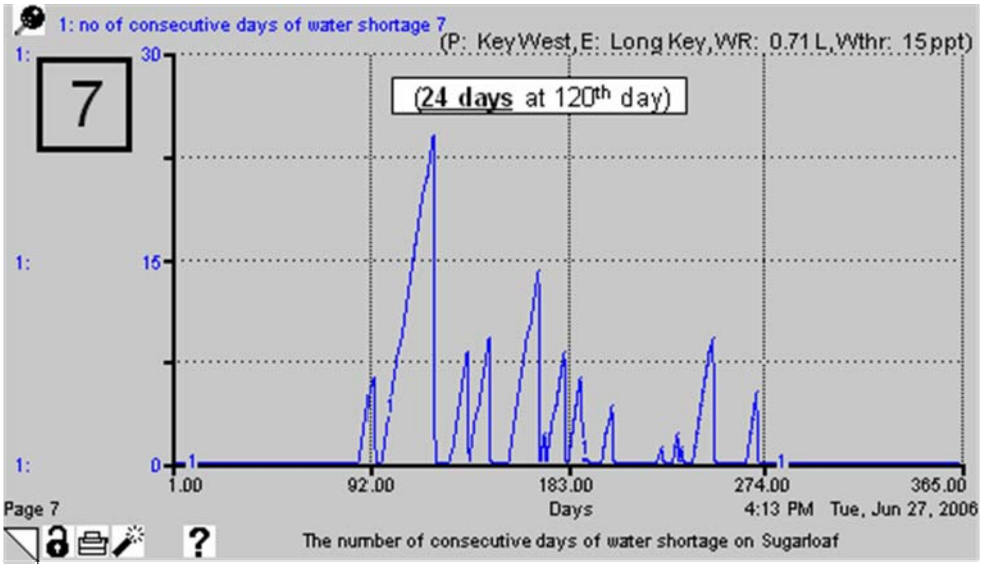


Fig. A5.1.1. The graph shows the number of consecutive days of water shortage from the simulation of Sugarloaf Key using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

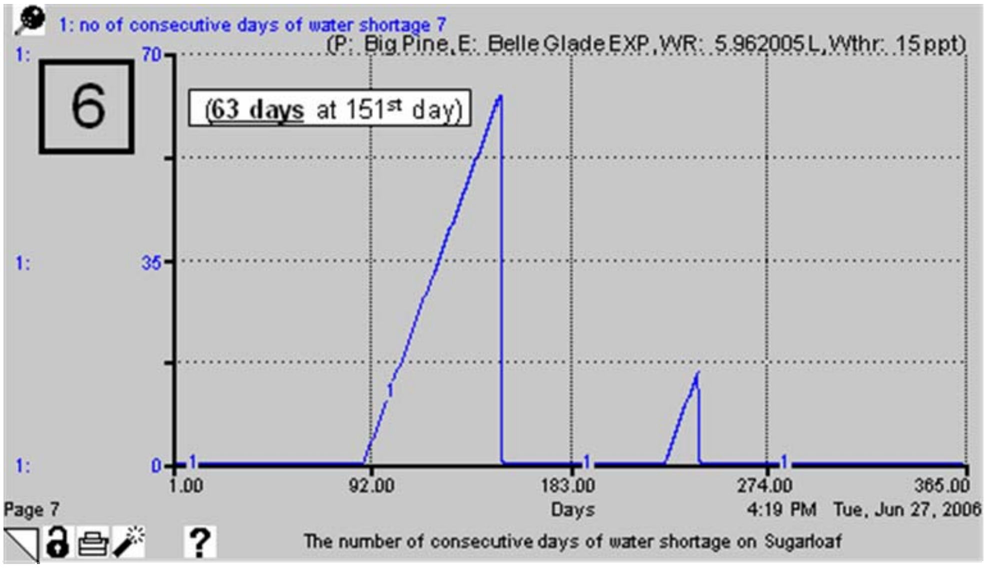


Fig. A5.1.2. The graph shows the number of consecutive days of water shortage from the simulation of Sugarloaf Key using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please see Fig. A6.1 to compare the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions.)

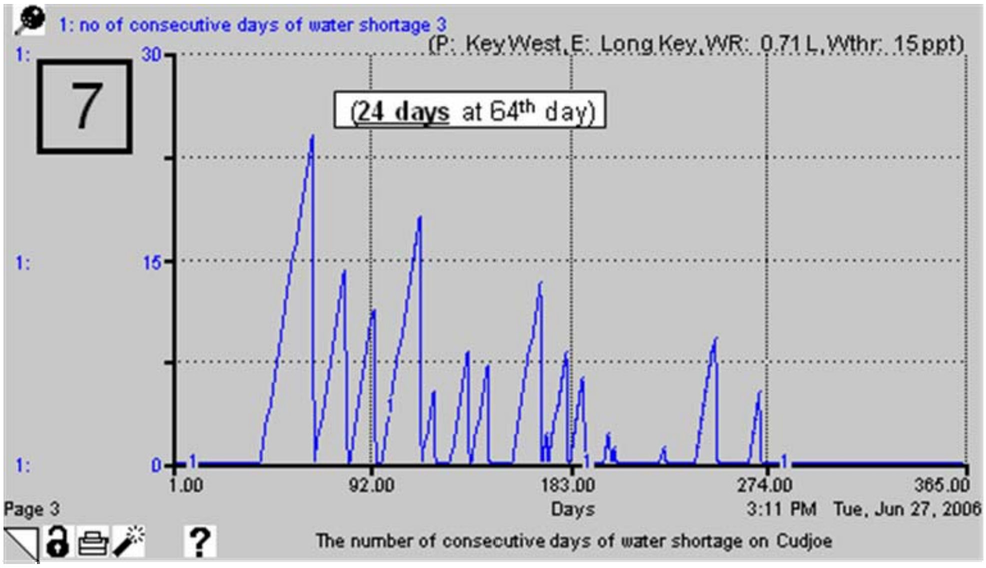


Fig. A5.2.1. The graph shows the number of consecutive days of water shortage from the simulation of Cudjoe Key using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

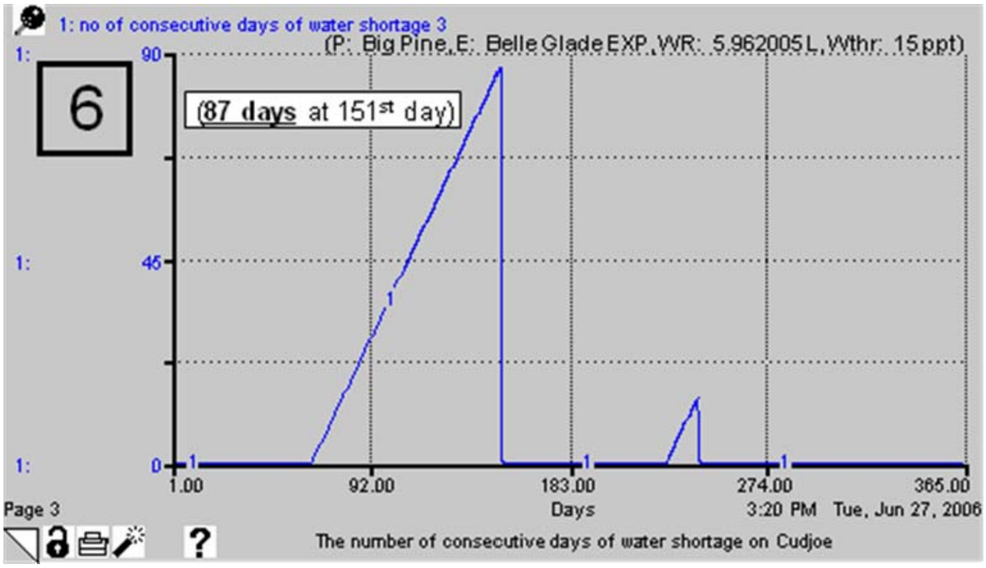


Fig. A5.2.2. The graph shows the number of consecutive days of water shortage from the simulation of Cudjoe Key using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please see Fig. A6.1 to compare the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions.)

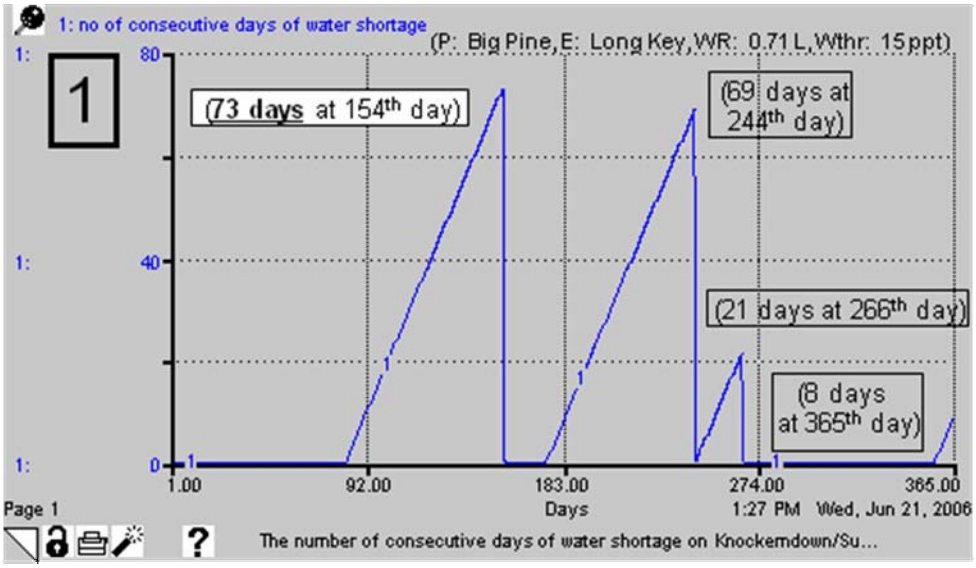


Fig. A5.3.1. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

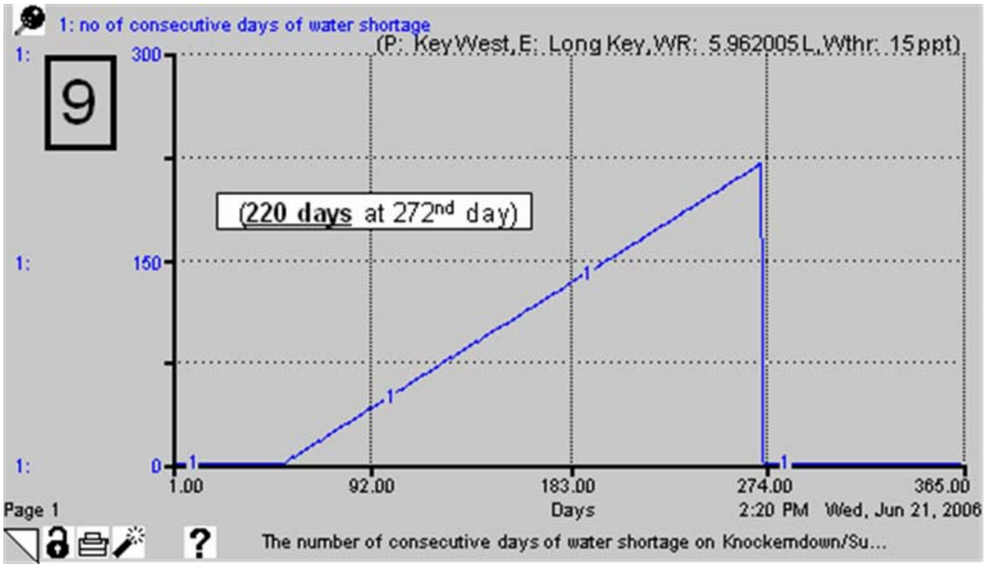


Fig. A5.3.2. The graph shows the number of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please see Fig. A6.1 to compare the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions.)

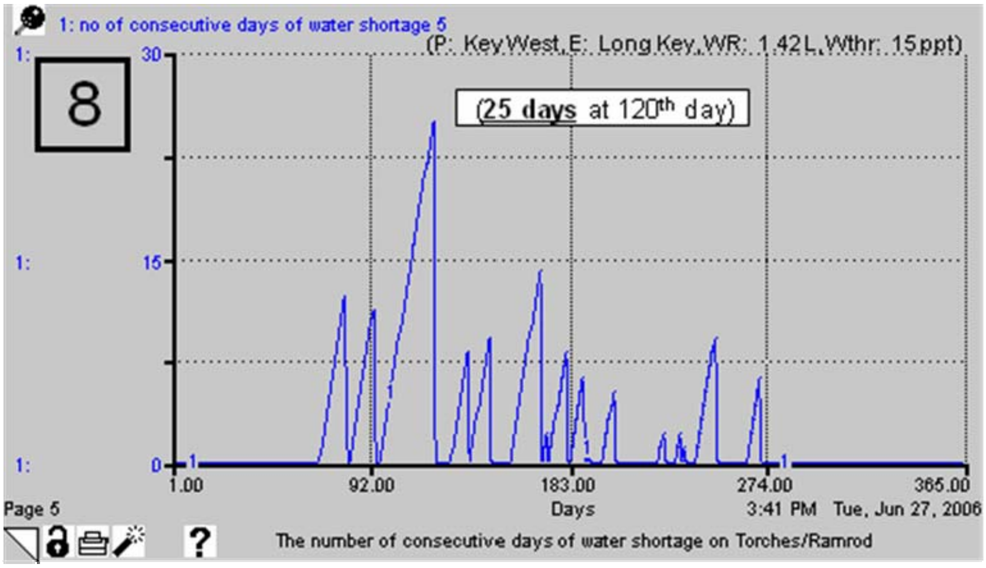


Fig. A5.4.1. The graph shows the number of consecutive days of water shortage from the simulation of Torches and Ramrod Keys using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 1.42 liters, and the upper salinity threshold for drinkable water, 15 ppt.

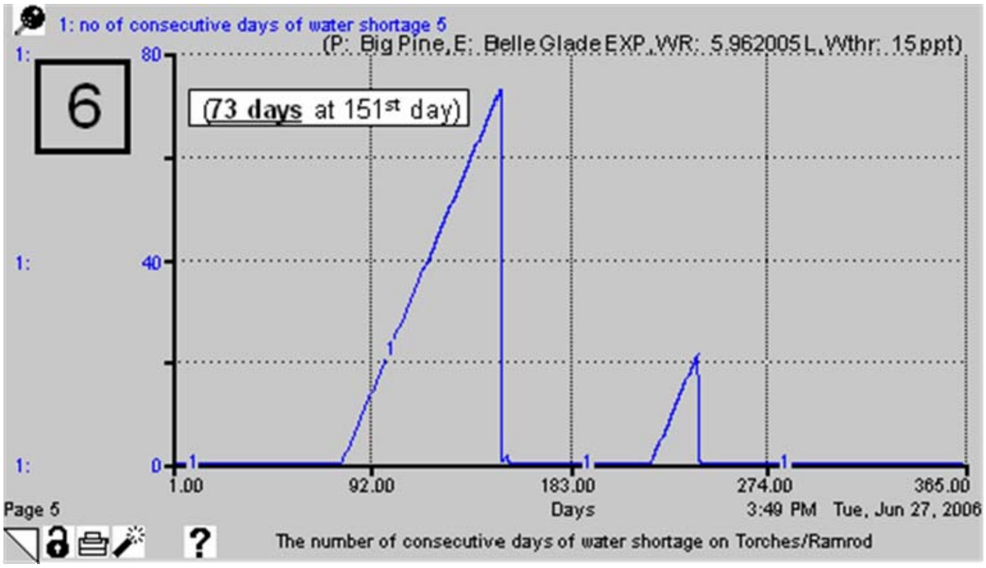


Fig. A5.4.2. The graph shows the number of consecutive days of water shortage from the simulation of Torches and Ramrod Keys using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please see Fig. A6.1 to compare the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions.)

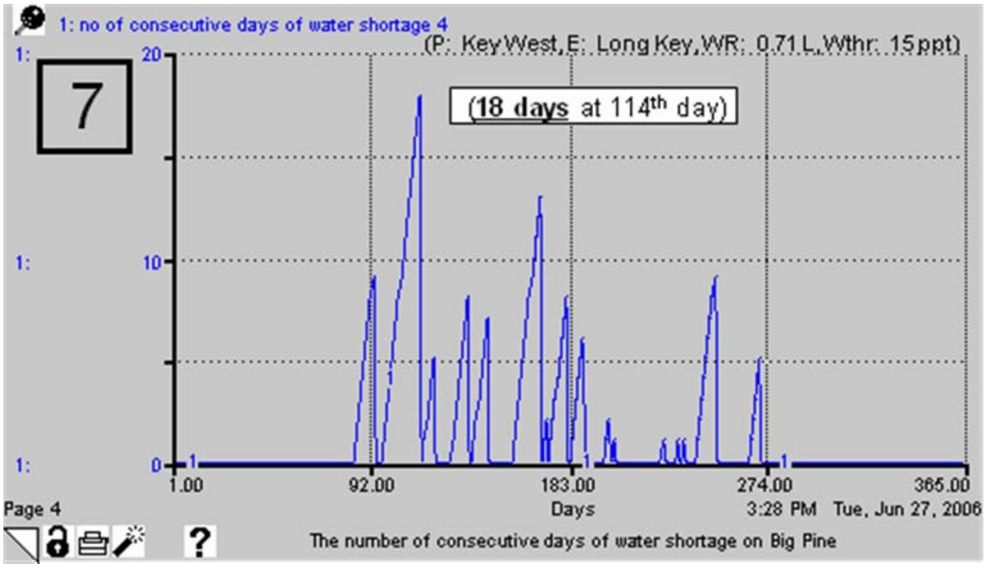


Fig. A5.5.1. The graph shows the number of consecutive days of water shortage from the simulation of Big Pine Key using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

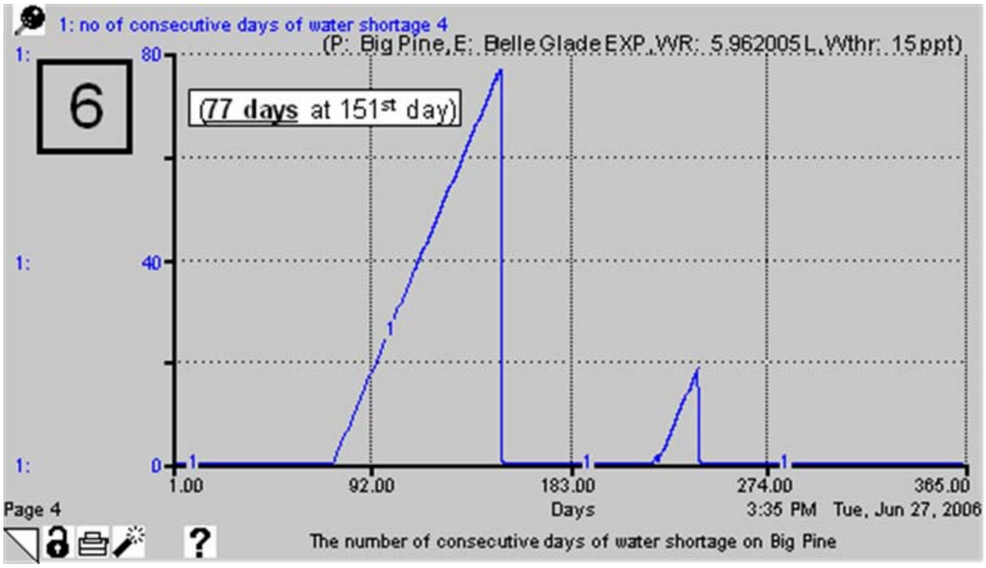


Fig. A5.5.2. The graph shows the number of consecutive days of water shortage from the simulation of Big Pine Key using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of Belle Glade EXP station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please see Fig. A6.1 to compare the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions.)

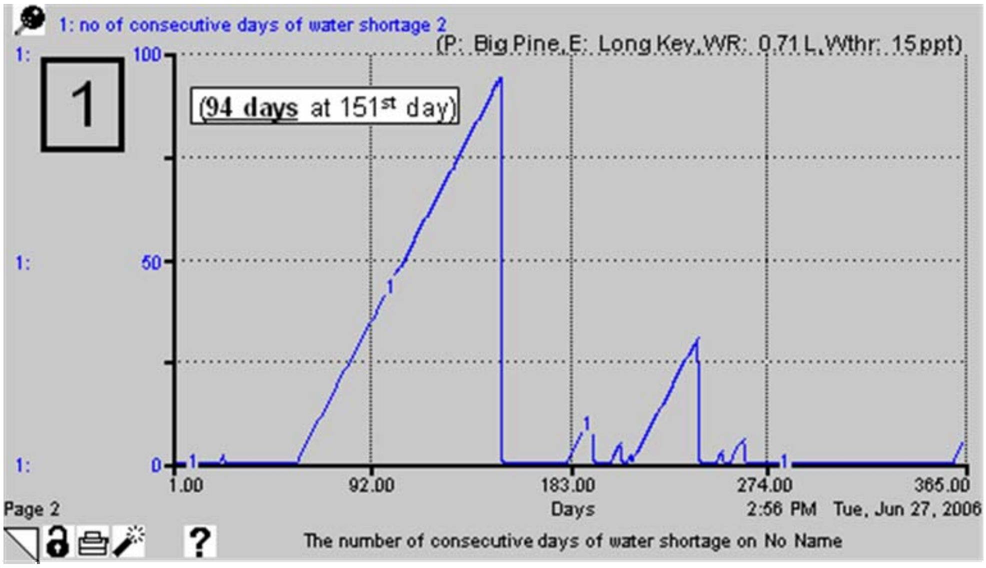


Fig. A5.6.1. The graph shows the number of consecutive days of water shortage from the simulation of No Name Key using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

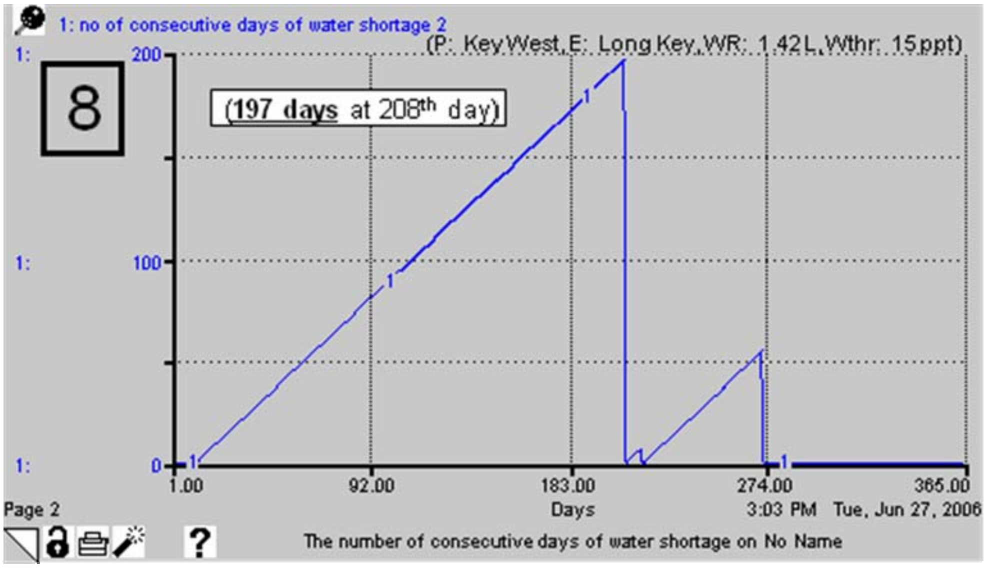


Fig. A5.6.2. The graph shows the number of consecutive days of water shortage from the simulation of No Name Key using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 1.42 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please see Fig. A6.1 to compare the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions.)

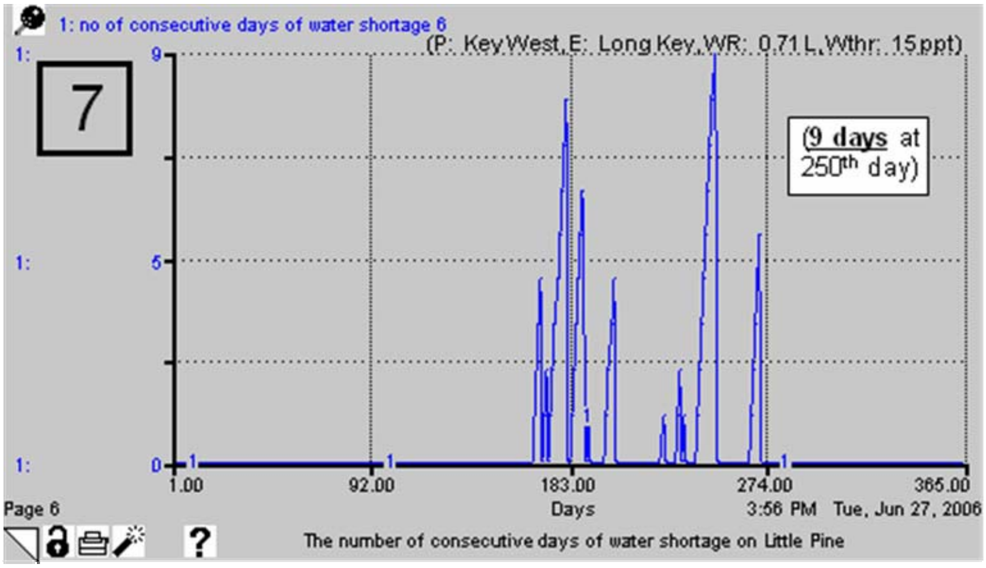


Fig. A5.7.1. The graph shows the number of consecutive days of water shortage from the simulation of Little Pine Key using the following parameter values; the precipitation data of Key West station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 0.71 liters, and the upper salinity threshold for drinkable water, 15 ppt.

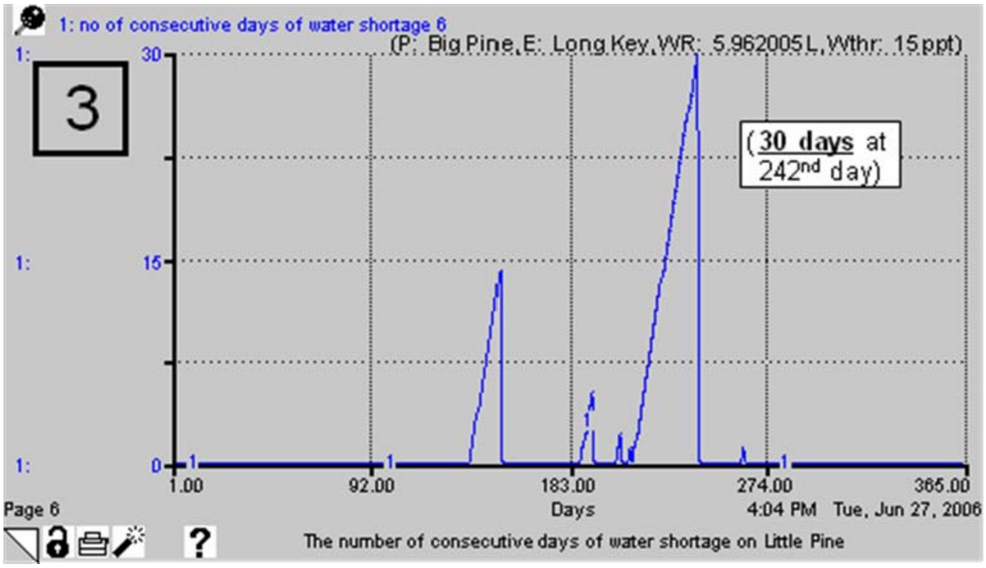


Fig. A5.7.2. The graph shows the number of consecutive days of water shortage from the simulation of Little Pine Key using the following parameter values; the precipitation data of Big Pine Key Inn station, the evaporation data of C-MAN weather station, the daily fresh water requirement of 5.962005 liters, and the upper salinity threshold for drinkable water, 15 ppt.

(Please see Fig. A6.1 to compare the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions.)

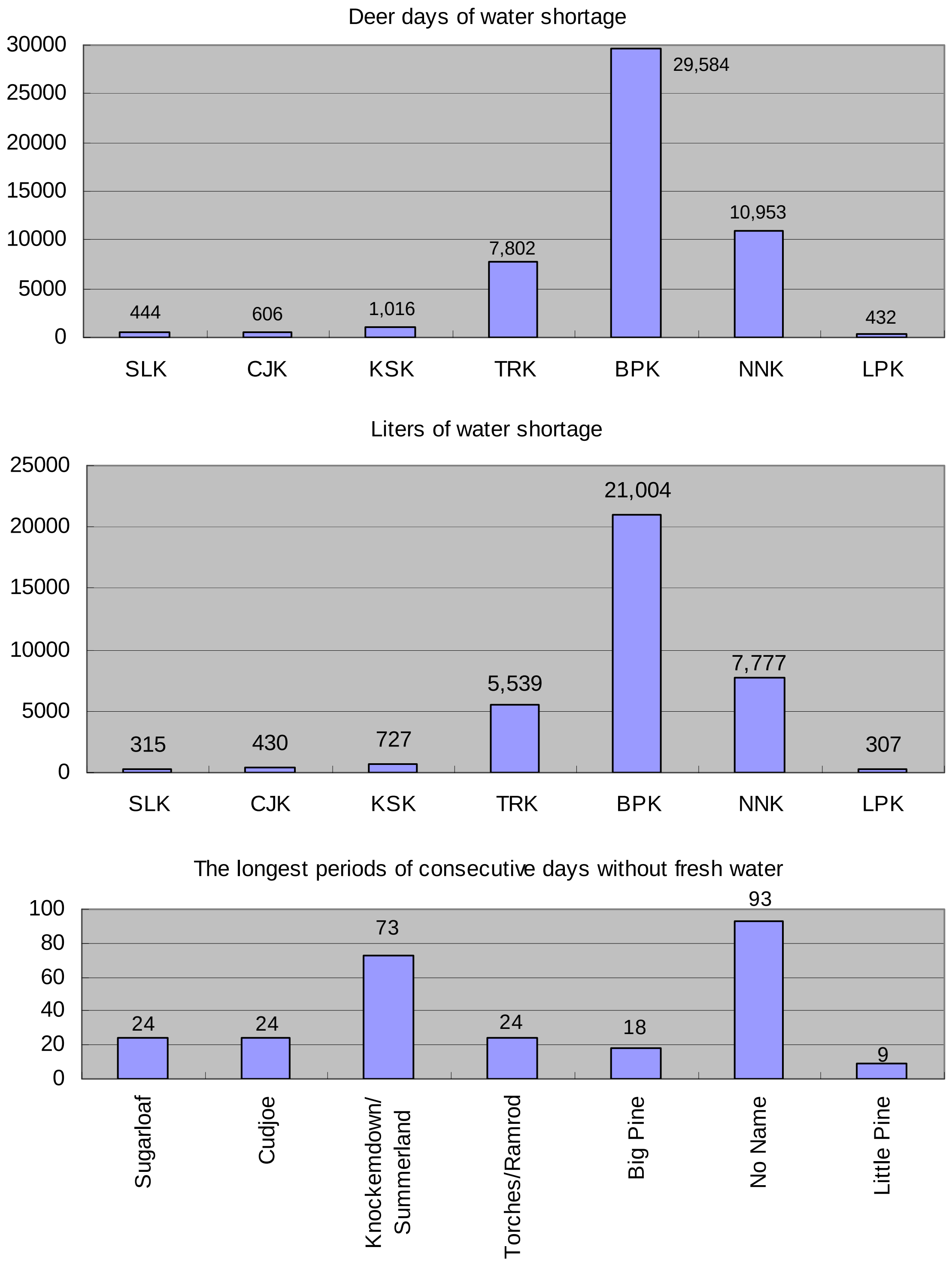


Fig.A6.1. The comparison of deer days of water shortage, the liters of water shortage, the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions.
(For the descriptions of the most favorable conditions per island, see Table B12.1.2.)

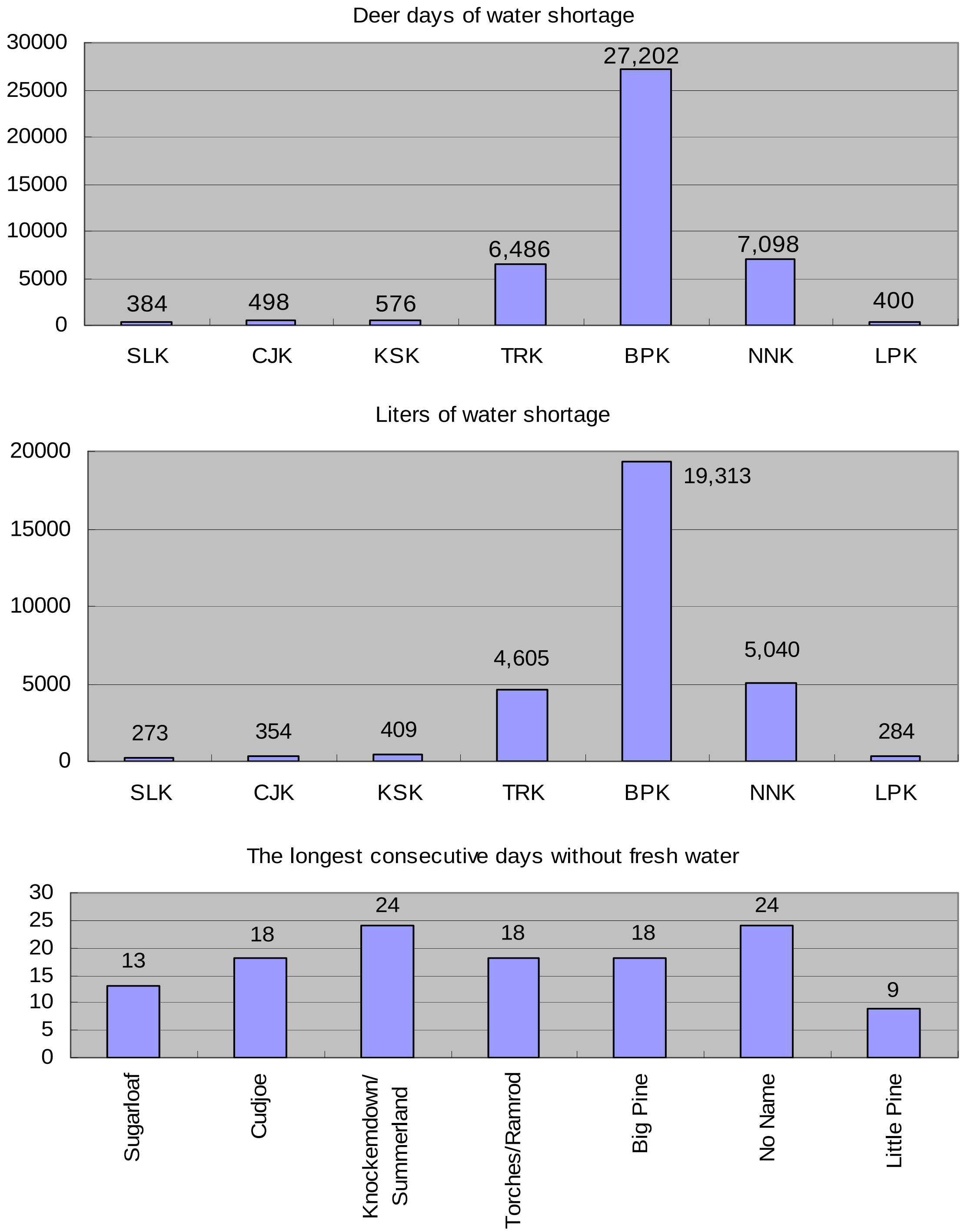


Fig. A6.2. The comparison of deer days of water shortage, the liters of water shortage, the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions with 330 ppt of the upper salinity threshold for drinkable water.
(For the descriptions of the most favorable conditions per island, see Table B12.2.2.)

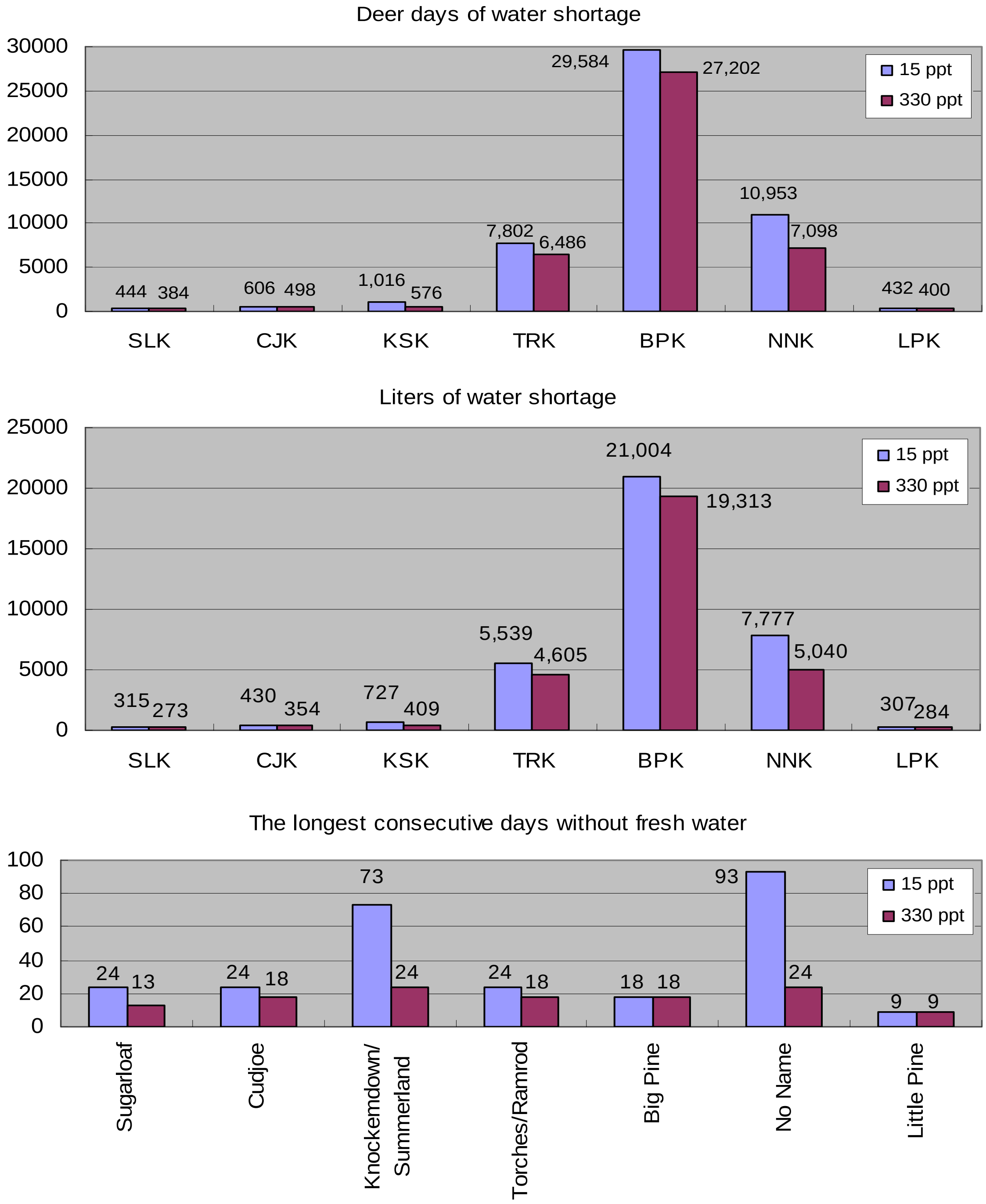


Fig. A6.3. The comparison of deer days of water shortage, the liters of water shortage, the longest consecutive days without fresh water among 7 island-complexes under the most favorable conditions with 15 ppt and 330 ppt of the upper salinity threshold for drinkable water.
(The red bar indicates each parameter with 330 ppt of the upper salinity threshold.)
(For the descriptions of the most favorable conditions per island, see Table B12.1.2 and B12.2.2.)

APPENDIX B

Table B1. The comparison between the published number of permanent waterholes within the Key Deer range (Lopez, 2001) and the number of waterholes used in this project (the data was collected during Dr. Lopez's project).

	The number of permanent waterholes		
Island-complex	In this project	(Unmeasured waterholes)	From Dr. Lopez's paper (2001)
Sugarloaf	18	(2)	18
Cudjoe	17	(7)	16
Knockemdown	0	(0)	16
Summerland	2	(0)	2
Big Torch	6	(1)	7
Middle Torch	13	(3)	13
Little Torch	4	(0)	4
Ramrod	16	(0)	17
Big Pine	123	(33)	126
No Name	16	(0)	16
Little Pine	26	(0)	27
Total	241	(46)	262
Annette			1
Howe			10
Newfound Harbor			0
Johnson			3
Grand total	241		276

Table B2. The simulated changes of salinity and water volume throughout the year 1953 of hole number 22 using the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station. (The upper salinity threshold for drinkable water was set at 15 ppt and the daily water requirement by Key Deer was set at 1.42 liters.)

Days	# 22 hole			
of year	salinity (ppt)	precipitation (inch)	evaporation (inch)	water volume (ft^3)
1	16	0.04	0.17	6,000.00
2	16.23	0	0.11	5,913.33
3	16.44	0.24	0.12	5,840.00
4	16.22	0	0.21	5,920.00
5	16.61	0	0.14	5,780.00
6	16.88	0	0.03	5,686.67
7	16.94	0	0.03	5,666.67
8	17	0	0.01	5,646.67
9	17.01	0	0.16	5,643.33
10	17.34	0.14	0.19	5,537.33
11	17.44	0	0.03	5,504.00
12	17.51	0	0.02	5,484.00
13	17.55	0	0.14	5,470.67
14	17.85	0	0.05	5,377.33
15	17.96	0	0.02	5,344.00
16	18.01	0	0.01	5,330.67
17	18.03	0	0.01	5,324.00
18	18.05	0	0.02	5,317.33
19	18.1	0.06	0.02	5,304.00
20	18.01	0	0.18	5,330.67
21	18.42	1.85	0.36	5,210.67
22	15.47	0	0.26	6,204.00
23	15.92	0	0.28	6,030.67
24	16.43	1.6	0.16	5,844.00
25	14.11	0	0.15	6,804.00
26	14.32	0	0.12	6,701.01
27	14.49	0	0.06	6,617.96
28	14.58	0	0.04	6,574.88
29	14.64	0	0.04	6,545.10
30	14.7	0	0.00	6,515.32
31	14.71	0	0.01	6,510.19
32	14.72	0	0.02	6,500.39
33	14.75	1.6	0.03	6,483.92
34	12.7	0	0.11	7,527.44
35	12.82	0	0.07	7,451.35
36	12.91	0	0.29	7,401.91
37	13.25	0	0.29	7,205.78
38	13.62	0.1	0.15	7,009.59
39	13.68	0.02	0.13	6,973.32
40	13.83	0	0.14	6,897.04
41	14.02	0	0.08	6,800.73
42	14.13	0	0.13	6,744.35
43	14.31	0	0.20	6,654.61

Table B2. (Continued)

Days	# 22 hole			
of year	salinity (ppt)	precipitation (inch)	evaporation (inch)	water volume (ft^3)
44	14.6	0	0.18	6,518.17
45	14.88	0	0.18	6,394.99
46	15.16	0.18	0.16	6,271.76
47	15.13	0	0.14	6,285.09
48	15.36	0	0.07	6,191.76
49	15.48	0.09	0.24	6,145.09
50	15.73	0	0.34	6,045.09
51	16.35	0	0.19	5,818.43
52	16.71	0	0.18	5,691.76
53	17.07	0	0.08	5,571.76
54	17.23	0	0.16	5,518.43
55	17.57	0	0.23	5,411.76
56	18.09	0	0.17	5,258.43
57	18.48	0	0.13	5,145.09
58	18.8	0	0.12	5,058.43
59	19.1	0	0.10	4,978.43
60	19.36	0	0.12	4,911.76
61	19.68	0	0.19	4,831.76
62	20.21	0	0.27	4,705.09
63	21.02	0	0.22	4,525.09
64	21.72	0	0.53	4,378.43
65	23.63	0	0.48	4,025.09
66	25.67	0	0.36	3,705.09
67	27.45	0	0.22	3,465.09
68	28.66	0	0.08	3,318.43
69	29.13	0	0.04	3,265.09
70	29.37	0.02	0.07	3,238.43
71	29.67	0.03	0.07	3,205.09
72	29.92	0	0.08	3,178.43
73	30.43	0	0.11	3,125.09
74	31.16	0	0.17	3,051.76
75	32.37	0	0.15	2,938.43
76	33.51	0	0.09	2,838.43
77	34.23	0	0.16	2,778.43
78	35.6	0	0.31	2,671.76
79	38.58	0	0.45	2,465.09
80	43.93	0	0.50	2,165.09
81	51.92	0	0.36	1,831.76
82	59.75	0	0.25	1,591.76
83	66.73	0	0.16	1,425.09
84	72.13	0	0.11	1,318.43
85	76.38	0	0.14	1,245.09
86	82.57	0	0.18	1,151.76
87	92.18	0	0.23	1,031.76
88	108.26	0	0.18	878.43
89	125.39	0	0.13	758.43

Table B2. (Continued)

Days	# 22 hole			
of year	salinity (ppt)	precipitation (inch)	evaporation (inch)	water volume (ft^3)
90	141.57	0	0.18	671.76
91	172.36	0	0.35	551.76
92	298.66	0	0.42	318.43
93	330	0.13	0.28	38.43
94	0	0	0.19	0
95	0	0	0.26	0
96	0	0	0.28	0
97	0	0	0.29	0
98	0	0	0.27	0
99	0	0	0.25	0
100	0	0	0.22	0
101	0	0	0.22	0
102	0	0	0.2	0
103	0	0	0.2	0
104	0	0	0.1	0
105	0	0	0.16	0
106	0	0.12	0.31	0
107	0	0	0.44	0
108	0	0	0.58	0
109	0	0	0.43	0
110	0	0	0.34	0
111	0	0	0.27	0
112	0	0	0.19	0
113	0	0	0.17	0
114	0	0	0.18	0
115	0	0	0.08	0
116	0	0	0.21	0
117	0	0	0.38	0
118	0	0	0.27	0
119	0	0	0.17	0
120	0	0	0.19	0
121	0	0	0.17	0
122	0	0	0.2	0
123	0	0	0.19	0
124	0	0	0.19	0
125	0	0	0.26	0
126	0	0	0.32	0
127	0	0.03	0.29	0
128	0	0	0.34	0
129	0	0	0.28	0
130	0	0	0.22	0
131	0	0	0.25	0
132	0	0	0.19	0
133	0	0	0.16	0
134	0	0	0.18	0
135	0	0	0.2	0

Table B2. (Continued)

Days	# 22 hole			
of year	salinity (ppt)	precipitation (inch)	evaporation (inch)	water volume (ft^3)
136	0	0	0.21	0
137	0	0	0.18	0
138	0	0	0.16	0
139	0	0	0.25	0
140	0	0	0.26	0
141	0	0	0.28	0
142	0	0	0.22	0
143	0	0	0.23	0
144	0	0	0.11	0
145	0	0	0.15	0
146	0	0	0.08	0
147	0	0	0.09	0
148	0	0	0.12	0
149	0	0.06	0.11	0
150	0	0.54	0.08	0
151	310.12	0	0.13	306.67
152	330	0.3	0.18	220
153	317.01	2.02	0.19	300
154	62.57	1.88	0.22	1,520.00
155	36.21	2.7	0.29	2,626.67
156	22.47	0	0.27	4,233.33
157	23.46	0.34	0.27	4,053.33
158	23.2	0	0.21	4,100.00
159	24.02	0	0.19	3,960.00
160	24.81	0	0.17	3,833.33
161	25.57	0	0.22	3,720.00
162	26.61	0	0.28	3,573.33
163	28.08	0	0.32	3,386.67
164	29.97	0	0.29	3,173.33
165	31.91	0	0.24	2,980.00
166	33.72	0	0.29	2,820.00
167	36.21	0	0.23	2,626.67
168	38.45	0	0.25	2,473.33
169	41.23	0	0.35	2,306.67
170	45.87	0.27	0.38	2,073.33
171	47.55	0.03	0.31	2,000.00
172	52.45	0	0.23	1,813.33
173	57.29	0.05	0.23	1,660.00
174	61.76	0	0.27	1,540.00
175	69.93	0	0.23	1,360.00
176	78.81	0.17	0.27	1,206.67
177	83.42	0.6	0.37	1,140.00
178	73.53	0.55	0.44	1,293.33
179	69.59	0.35	0.34	1,366.67
180	69.25	0.07	0.30	1,373.33
181	77.95	0	0.32	1,220.00

Table B2. (Continued)

Days of year	# 22 hole			
	salinity (ppt)	precipitation (inch)	evaporation (inch)	water volume (ft^3)
182	94.47	0	0.32	1,006.67
183	119.88	0	0.37	793.33
184	173.97	0	0.34	546.67
185	297.2	0	0.29	320
186	330	0.27	0.31	126.67
187	330	0	0.32	100
188	0	0.03	0.28	0
189	0	0	0.18	0
190	0	0	0.21	0
191	0	0	0.29	0
192	0	1.42	0.23	0
193	119.88	0.96	0.2	793.33
194	73.16	0	0.25	1,300.00
195	83.91	0	0.37	1,133.33
196	107.26	0.24	0.31	886.67
197	113.22	0	0.21	840
198	135.86	0.56	0.25	700
199	104.89	0	0.28	906.67
200	132.09	0	0.28	720
201	178.32	0	0.2	533.33
202	237.76	0	0.28	400
203	330	0	0.41	213.33
204	0	0	0.2	0
205	0	1.1	0.23	0
206	163.97	0.15	0.24	580
207	182.89	0	0.25	520
208	269.16	0	0.28	353.33
209	330	0	0.33	166.67
210	0	0.42	0.26	0
211	330	0	0.3	106.67
212	0	0	0.46	0
213	0	0	0.34	0
214	0	0	0.19	0
215	0	0	0.13	0
216	0	0	0.1	0
217	0	0	0.15	0
218	0	0	0.18	0
219	0	0	0.27	0
220	0	0	0.28	0
221	0	0	0.2	0
222	0	0.24	0.22	0
223	330	0.06	0.27	13.33
224	0	0	0.35	0
225	0	0	0.29	0
226	0	0	0.26	0
227	0	0.23	0.22	0

Table B2. (Continued)

Days	# 22 hole			
of year	salinity (ppt)	precipitation (inch)	evaporation (inch)	water volume (ft^3)
228	330	0	0.27	6.67
229	0	0	0.35	0
230	0	0.05	0.38	0
231	0	0	0.35	0
232	0	0	0.26	0
233	0	0	0.28	0
234	0	0	0.23	0
235	0	0	0.24	0
236	0	0.03	0.19	0
237	0	0	0.16	0
238	0	0	0.24	0
239	0	0.13	0.2	0
240	0	0.04	0.29	0
241	0	0.97	0.33	0
242	222.9	0.02	0.31	426.67
243	330	2.33	0.36	233.33
244	61.49	0.02	0.33	1,546.67
245	70.97	0	0.26	1,340.00
246	81.52	0	0.26	1,166.67
247	95.74	0.12	0.26	993.33
248	105.67	0.07	0.24	900
249	120.89	0	0.23	786.67
250	150.16	0	0.21	633.33
251	192.78	0	0.25	493.33
252	291.13	0.93	0.2	326.67
253	116.93	0	0.19	813.33
254	138.5	0	0.21	686.67
255	173.97	0.46	0.22	546.67
256	134.58	0	0.22	706.67
257	169.83	0	0.24	560
258	237.76	0	0.19	400
259	330	0	0.13	273.33
260	330	0	0.16	186.67
261	330	0	0.2	80
262	0	0.88	0.19	0
263	206.75	0.64	0.18	460
264	124.05	1.17	0.2	766.67
265	67.29	0.6	0.24	1,413.33
266	57.52	0	0.23	1,653.33
267	63.4	0.78	0.23	1,500.00
268	50.95	0.35	0.17	1,866.67
269	47.87	0.32	0.19	1,986.67
270	45.87	0.08	0.23	2,073.33
271	48.19	3.6	0.17	1,973.33
272	22.32	0.05	0.21	4,260.00
273	22.9	0	0.23	4,153.33

Table B2. (Continued)

Days	# 22 hole			
of year	salinity (ppt)	precipitation (inch)	evaporation (inch)	water volume (ft^3)
274	23.78	0	0.27	4,000.00
275	24.9	0.52	0.29	3,820.00
276	23.94	0.76	0.17	3,973.33
277	21.78	0	0.15	4,366.67
278	22.29	0	0.09	4,266.67
279	22.61	0.05	0.09	4,206.67
280	22.75	1.35	0.18	4,180.00
281	19.17	1.67	0.28	4,960.00
282	16.16	0.52	0.37	5,886.67
283	15.89	0	0.35	5,986.67
284	16.53	0	0.31	5,753.33
285	17.15	0	0.25	5,546.67
286	17.68	0	0.19	5,380.00
287	18.1	0.19	0.07	5,253.33
288	17.83	0	0.08	5,333.33
289	18.01	0	0.15	5,280.00
290	18.36	0.25	0.32	5,180.00
291	18.53	0.84	0.23	5,133.33
292	17.17	1.68	0.08	5,540.00
293	14.39	0	0.09	6,606.67
294	14.53	0	0.09	6,545.01
295	14.66	0	0.04	6,483.35
296	14.72	0	0.05	6,455.01
297	14.8	0	0.07	6,420.02
298	14.91	0	0.11	6,371.68
299	15.08	0	0.26	6,296.68
300	15.51	0.06	0.66	6,123.35
301	16.59	0	0.38	5,723.35
302	17.36	0	0.18	5,470.02
303	17.75	0	0.12	5,350.02
304	18.02	0	0.14	5,270.02
305	18.34	0	0.10	5,176.68
306	18.58	0	0.07	5,110.02
307	18.75	0.14	0.11	5,063.35
308	18.68	0	0.15	5,083.35
309	19.05	0	0.16	4,983.35
310	19.47	0	0.14	4,876.68
311	19.85	0	0.17	4,783.35
312	20.33	0	0.14	4,670.02
313	20.75	0	0.13	4,576.68
314	21.15	0	0.16	4,490.02
315	21.66	0	0.12	4,383.35
316	22.07	0	0.16	4,303.35
317	22.63	0	0.13	4,196.68
318	23.1	0	0.13	4,110.02
319	23.6	0	0.17	4,023.35

Table B2. (Continued)

Days	# 22 hole			
of year	salinity (ppt)	precipitation (inch)	evaporation (inch)	water volume (ft^3)
320	24.29	0	0.16	3,910.02
321	24.97	0.51	0.10	3,803.35
322	23.29	0	0.12	4,076.68
323	23.76	0	0.11	3,996.68
324	24.2	0	0.10	3,923.35
325	24.62	0	0.14	3,856.68
326	25.23	0	0.15	3,763.35
327	25.92	0	0.15	3,663.35
328	26.65	0	0.10	3,563.35
329	27.16	0.16	0.15	3,496.68
330	27.1	0.09	0.20	3,503.35
331	27.68	0	0.18	3,430.02
332	28.69	0	0.19	3,310.02
333	29.83	0	0.12	3,183.35
334	30.6	0	0.12	3,103.35
335	31.41	0	0.13	3,023.35
336	32.33	0	0.12	2,936.68
337	33.24	0.15	0.15	2,856.68
338	33.24	0.03	0.16	2,856.68
339	34.28	0	0.14	2,770.02
340	35.48	0	0.08	2,676.68
341	36.2	0	0.05	2,623.35
342	36.66	0	0.05	2,590.02
343	37.14	0	0.07	2,556.68
344	37.83	0	0.13	2,510.02
345	39.18	0	0.09	2,423.35
346	40.18	0	0.19	2,363.35
347	42.45	0	0.11	2,236.68
348	43.89	0.08	0.12	2,163.35
349	44.44	0	0.16	2,136.68
350	46.78	0	0.25	2,030.02
351	50.96	0	0.13	1,863.35
352	53.45	0	0.08	1,776.68
353	55.1	0	0.17	1,723.35
354	58.98	0	0.27	1,610.02
355	66.4	0.4	0.33	1,430.02
356	64.3	0	0.23	1,476.68
357	71.75	0	0.14	1,323.35
358	77.2	0.06	0.02	1,230.02
359	75.56	0	0.08	1,256.68
360	78.91	0	0.36	1,203.35
361	98.57	0	0.2	963.35
362	114.4	0	0.05	830.02
363	119.19	0	0.02	796.68
364	121.22	0	0.03	783.35
365	124.39	0	0.08	763.35

Table B3. The number of deer which can be supported by each island in terms of fresh water availability using a 1-year base line simulation (15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station).

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 1	158,996	562,349	193,100	449,585	925,152	61,479	4,811,487
DAY 2	153,771	505,516	183,405	419,285	509,635	8,728	4,707,222
DAY 3	149,457	493,648	181,313	411,026	498,558	8,316	4,649,258
DAY 4	154,128	515,034	183,504	419,830	518,434	8,602	4,712,448
DAY 5	146,119	483,696	179,517	404,148	484,141	7,887	4,601,803
DAY 6	140,941	468,593	176,857	393,662	469,954	7,385	4,528,035
DAY 7	139,826	465,352	176,281	344,879	466,928	7,216	4,512,215
DAY 8	138,712	462,111	175,704	342,957	462,992	7,047	4,496,395
DAY 9	138,521	461,566	175,602	335,894	462,167	6,954	4,493,745
DAY 10	132,640	444,414	172,582	326,317	447,859	6,274	4,409,967
DAY 11	130,787	439,016	171,626	323,253	443,362	6,046	4,383,611
DAY 12	129,672	435,775	171,050	321,376	440,501	5,878	4,367,791
DAY 13	128,927	433,612	170,663	320,094	438,459	5,741	4,357,239
DAY 14	123,735	418,509	168,003	305,624	426,592	5,244	4,283,470
DAY 15	121,892	413,112	167,048	302,634	422,100	5,016	4,257,114
DAY 16	121,151	410,949	166,661	301,382	420,059	4,878	4,246,562
DAY 17	120,777	409,864	166,463	300,709	418,836	4,770	4,241,278
DAY 18	120,404	408,780	166,266	300,035	417,613	4,663	4,235,994
DAY 19	119,663	406,617	165,879	298,783	415,572	4,525	4,225,442
DAY 20	121,127	413,820	166,629	301,006	421,376	4,566	4,246,498
DAY 21	114,507	389,876	163,211	290,487	401,508	0	4,151,658
DAY 22	169,761	650,029	187,970	449,313	646,961	112,164	4,844,252
DAY 23	160,136	603,165	183,036	429,909	597,701	84,407	4,707,268
DAY 24	149,532	552,697	177,724	408,980	550,960	6,917	4,559,747
DAY 25	202,890	791,057	197,530	649,338	922,416	173,866	5,046,402
DAY 26	197,334	764,018	194,681	633,642	894,167	167,849	4,967,366
DAY 27	192,888	742,385	192,399	610,695	870,509	163,021	4,904,133
DAY 28	190,662	731,565	191,255	523,459	859,470	137,166	4,872,509
DAY 29	189,176	724,351	190,489	519,929	851,975	135,663	4,851,421
DAY 30	187,690	717,136	189,723	516,399	844,481	134,161	4,830,333
DAY 31	187,573	716,589	189,658	516,048	843,543	133,977	4,828,736
DAY 32	187,197	714,781	189,461	515,095	841,365	133,543	4,823,452
DAY 33	186,451	711,170	189,074	513,282	837,415	132,753	4,812,900
DAY 34	244,337	967,625	209,481	847,360	1,111,049	246,190	5,299,514
DAY 35	240,261	947,795	207,389	834,728	1,089,238	241,319	5,241,549
DAY 36	237,665	935,173	206,055	826,655	1,075,817	238,190	5,204,657
DAY 37	226,929	882,902	200,553	715,133	1,021,815	225,474	5,051,868
DAY 38	216,194	830,631	195,051	684,875	969,933	212,758	4,899,079
DAY 39	214,338	821,614	194,096	679,580	960,772	210,502	4,872,723
DAY 40	210,262	801,784	192,004	668,045	941,170	205,630	4,814,759
DAY 41	205,076	776,546	189,344	653,389	905,657	174,499	4,740,990
DAY 42	202,110	762,122	187,820	644,974	891,506	171,253	4,698,830

Table B3. (Continued)

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 43	197,294	738,687	185,350	631,358	868,765	166,029	4,630,330
DAY 44	189,888	704,185	181,553	519,563	833,998	134,783	4,524,953
DAY 45	183,223	673,149	178,135	504,007	802,777	128,336	4,430,113
DAY 46	176,557	642,113	174,717	488,451	644,938	121,984	4,335,272
DAY 47	177,291	645,712	175,088	490,075	647,843	122,618	4,345,792
DAY 48	172,105	621,415	172,427	450,364	625,342	114,698	4,272,024
DAY 49	169,509	609,342	171,093	445,072	606,134	109,382	4,235,132
DAY 50	163,953	583,477	168,244	433,837	581,016	86,143	4,156,095
DAY 51	151,128	526,309	161,795	408,563	527,758	6,873	3,976,966
DAY 52	144,101	496,527	158,187	394,556	494,287	6,219	3,876,858
DAY 53	137,444	468,312	154,769	329,181	467,200	5,596	3,782,017
DAY 54	134,483	455,769	153,246	324,412	454,935	5,275	3,739,857
DAY 55	128,565	430,688	150,207	314,938	430,812	4,606	3,655,552
DAY 56	120,061	394,637	145,841	295,525	396,298	0	3,534,372
DAY 57	113,774	368,246	142,613	285,755	372,485	0	3,444,799
DAY 58	108,992	357,221	140,142	278,196	360,244	0	3,376,299
DAY 59	104,577	347,105	137,861	271,284	350,451	0	3,313,066
DAY 60	100,897	338,445	135,958	241,459	342,507	0	3,260,370
DAY 61	96,482	311,083	67,227	235,743	323,883	0	3,197,138
DAY 62	89,495	295,923	65,198	226,748	309,800	0	3,097,029
DAY 63	65,010	275,463	62,319	212,717	290,266	0	2,954,776
DAY 64	60,577	259,920	59,971	202,453	274,124	0	2,838,864
DAY 65	49,401	15,145	54,326	177,860	216,688	0	2,558,543
DAY 66	41,578	11,669	49,213	152,402	186,965	0	2,310,083
DAY 67	33,614	72	45,376	120,025	171,737	0	2,123,858
DAY 68	30,858	0	43,029	112,208	162,281	0	2,003,860
DAY 69	30,125	0	42,170	109,320	158,584	0	1,969,332
DAY 70	29,756	0	41,736	107,830	156,532	0	1,952,060
DAY 71	29,296	0	41,197	105,990	154,069	0	1,930,474
DAY 72	28,927	0	40,763	104,499	152,018	0	1,913,202
DAY 73	28,195	0	39,904	101,612	148,321	0	1,878,674
DAY 74	27,190	0	38,726	55,306	143,367	0	1,831,204
DAY 75	25,640	0	36,910	52,101	129,650	0	1,757,850
DAY 76	24,272	0	35,307	47,190	123,333	0	1,693,124
DAY 77	23,449	0	34,342	44,916	119,380	0	1,650,628
DAY 78	21,990	0	32,632	42,758	111,942	0	1,583,822
DAY 79	19,169	0	29,327	33,557	22,472	0	1,470,824
DAY 80	14,680	0	24,533	29,140	19,482	0	1,318,450
DAY 81	10,184	0	0	22,784	16,099	0	1,150,071
DAY 82	6,945	0	0	19,726	13,744	0	1,030,263
DAY 83	3,330	0	0	6,044	12,211	0	947,058
DAY 84	2,950	0	0	3,411	11,084	0	892,798
DAY 85	2,688	0	0	3,115	8,484	0	857,733
DAY 86	2,355	0	0	2,764	6,998	0	813,108
DAY 87	1,929	0	0	2,017	5,720	0	755,313

Table B3. (Continued)

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 88	1,387	0	0	1,541	4,474	0	681,346
DAY 89	961	0	0	1,148	1,602	0	624,455
DAY 90	542	0	0	838	1,092	0	583,129
DAY 91	238	0	0	445	501	0	526,657
DAY 92	207	0	0	0	48	0	416,865
DAY 93	172	0	0	0	0	0	284,246
DAY 94	0	0	0	0	0	0	238,056
DAY 95	0	0	0	0	0	0	179,552
DAY 96	0	0	0	0	0	0	96,972
DAY 97	0	0	0	0	0	0	32,170
DAY 98	0	0	0	0	0	0	30,226
DAY 99	0	0	0	0	0	0	28,415
DAY 100	0	0	0	0	0	0	26,737
DAY 101	0	0	0	0	0	0	25,259
DAY 102	0	0	0	0	0	0	23,781
DAY 103	0	0	0	0	0	0	22,435
DAY 104	0	0	0	0	0	0	18,552
DAY 105	0	0	0	0	0	0	18,287
DAY 106	0	0	0	0	0	0	17,872
DAY 107	0	0	0	0	0	0	17,383
DAY 108	0	0	0	0	0	0	16,270
DAY 109	0	0	0	0	0	0	14,808
DAY 110	0	0	0	0	0	0	13,720
DAY 111	0	0	0	0	0	0	12,857
DAY 112	0	0	0	0	0	0	12,168
DAY 113	0	0	0	0	0	0	11,678
DAY 114	0	0	0	0	0	0	11,238
DAY 115	0	0	0	0	0	0	10,774
DAY 116	0	0	0	0	0	0	10,558
DAY 117	0	0	0	0	0	0	10,019
DAY 118	0	0	0	0	0	0	9,056
DAY 119	0	0	0	0	0	0	8,367
DAY 120	0	0	0	0	0	0	7,927
DAY 121	0	0	0	0	0	0	7,437
DAY 122	0	0	0	0	0	0	6,997
DAY 123	0	0	0	0	0	0	5,298
DAY 124	0	0	0	0	0	0	5,093
DAY 125	0	0	0	0	0	0	4,887
DAY 126	0	0	0	0	0	0	4,612
DAY 127	0	0	0	0	0	0	4,277
DAY 128	0	0	0	0	0	0	4,002
DAY 129	0	0	0	0	0	0	3,647
DAY 130	0	0	0	0	0	0	3,352
DAY 131	0	0	0	0	0	0	3,116
DAY 132	0	0	0	0	0	0	2,851

Table B3. (Continued)

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 133	0	0	0	0	0	0	2,646
DAY 134	0	0	0	0	0	0	2,470
DAY 135	0	0	0	0	0	0	2,275
DAY 136	0	0	0	0	0	0	2,059
DAY 137	0	0	0	0	0	0	1,834
DAY 138	0	0	0	0	0	0	1,638
DAY 139	0	0	0	0	0	0	1,463
DAY 140	0	0	0	0	0	0	1,198
DAY 141	0	0	0	0	0	0	922
DAY 142	0	0	0	0	0	0	627
DAY 143	0	0	0	0	0	0	0
DAY 144	0	0	0	0	0	0	0
DAY 145	0	0	0	0	0	0	0
DAY 146	0	0	0	0	0	0	0
DAY 147	0	0	0	0	0	0	0
DAY 148	0	0	0	0	0	0	0
DAY 149	0	0	0	0	0	0	0
DAY 150	0	0	0	0	0	0	0
DAY 151	6,765	48,431	0	3,023	44,504	344	238,049
DAY 152	2,656	34,738	0	2,075	30,851	169	170,758
DAY 153	6,606	47,366	0	2,770	42,725	181	232,842
DAY 154	83,998	303,012	24,249	57,676	262,100	15,594	1,201,063
DAY 155	145,162	492,490	41,896	313,014	596,612	117,826	2,075,540
DAY 156	234,912	1,043,023	67,519	646,633	968,639	246,115	3,345,119
DAY 157	224,916	994,317	64,639	618,859	922,213	235,415	3,202,866
DAY 158	227,500	1,006,966	65,376	625,941	933,832	238,091	3,239,726
DAY 159	219,725	969,073	63,134	604,318	896,896	229,751	3,129,082
DAY 160	212,689	934,825	61,106	584,746	865,485	199,298	3,028,973
DAY 161	206,393	904,181	59,290	567,224	837,863	193,210	2,939,401
DAY 162	198,247	864,526	56,942	544,576	802,722	184,465	2,823,488
DAY 163	187,882	611,462	53,956	515,776	749,536	174,535	2,675,967
DAY 164	175,799	569,036	50,545	403,898	698,598	163,197	2,507,374
DAY 165	165,078	530,603	47,452	377,410	653,756	153,127	2,354,585
DAY 166	156,204	481,927	44,892	339,246	615,877	141,986	2,228,137
DAY 167	145,090	445,589	41,800	309,678	566,339	115,844	2,075,348
DAY 168	136,609	418,573	39,345	291,156	532,317	108,954	1,954,167
DAY 169	127,390	390,355	36,679	225,542	493,666	101,471	1,822,450
DAY 170	114,487	350,854	32,948	202,505	433,864	73,138	1,638,053
DAY 171	110,428	338,435	31,770	195,200	417,737	70,441	1,580,089
DAY 172	100,104	306,832	28,784	176,752	369,762	16,846	1,432,568
DAY 173	91,623	280,872	26,330	100,219	335,107	15,316	1,311,387
DAY 174	84,984	260,554	24,408	55,543	233,205	14,101	1,216,547
DAY 175	74,704	230,079	0	37,163	202,759	12,318	1,074,294
DAY 176	66,259	204,119	0	29,737	178,457	5,110	953,113
DAY 177	62,584	192,829	0	27,954	166,909	4,733	900,417

Table B3. (Continued)

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 178	71,017	224,224	0	34,918	195,763	5,515	1,021,566
DAY 179	75,047	239,216	0	37,313	209,105	12,323	1,079,498
DAY 180	75,407	240,574	0	37,415	210,924	12,316	1,084,750
DAY 181	66,963	209,167	0	29,750	180,866	4,951	963,569
DAY 182	55,186	170,230	0	18,483	143,034	3,834	794,976
DAY 183	43,446	125,818	0	12,311	87,926	0	626,384
DAY 184	16,123	86,642	0	5,607	55,620	0	430,225
DAY 185	6,965	39,115	0	1,920	27,733	0	247,863
DAY 186	988	15,394	0	0	5,221	0	36,505
DAY 187	765	12,117	0	0	1,861	0	24,555
DAY 188	0	0	0	0	0	0	0
DAY 189	0	0	0	0	0	0	0
DAY 190	0	0	0	0	0	0	0
DAY 191	0	0	0	0	0	0	0
DAY 192	0	0	0	0	0	0	0
DAY 193	43,637	153,994	0	14,614	114,238	4,449	626,896
DAY 194	71,539	260,612	0	38,134	224,441	13,448	1,027,250
DAY 195	62,360	226,478	0	30,223	191,636	5,992	895,533
DAY 196	48,753	166,740	0	18,342	118,606	4,530	700,600
DAY 197	46,180	157,678	0	17,240	111,561	4,191	663,708
DAY 198	38,473	130,504	0	12,470	91,895	479	553,063
DAY 199	49,835	170,643	0	18,479	150,629	4,409	716,356
DAY 200	39,561	134,373	0	12,661	94,232	412	568,835
DAY 201	15,816	98,142	0	9,140	66,236	125	420,118
DAY 202	9,636	72,821	0	3,543	48,145	0	310,955
DAY 203	2,563	31,137	0	1,609	22,453	0	165,442
DAY 204	0	0	0	0	0	0	0
DAY 205	0	0	0	0	0	0	0
DAY 206	17,228	112,594	0	10,648	85,412	651	457,017
DAY 207	12,555	100,905	0	9,452	73,514	505	409,724
DAY 208	7,996	55,791	0	3,382	47,912	240	274,242
DAY 209	2,006	26,305	0	1,448	20,153	0	121,478
DAY 210	0	0	0	0	0	0	0
DAY 211	864	16,885	0	453	15,423	120	27,724
DAY 212	0	0	0	0	0	0	0
DAY 213	0	0	0	0	0	0	0
DAY 214	0	0	0	0	0	0	0
DAY 215	0	0	0	0	0	0	0
DAY 216	0	0	0	0	0	0	0
DAY 217	0	0	0	0	0	0	0
DAY 218	0	0	0	0	0	0	0
DAY 219	0	0	0	0	0	0	0
DAY 220	0	0	0	0	0	0	0
DAY 221	0	0	0	0	0	0	0
DAY 222	0	0	0	0	0	0	0

Table B3. (Continued)

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 223	0	1,958	0	20	1,923	15	0
DAY 224	0	0	0	0	0	0	0
DAY 225	0	0	0	0	0	0	0
DAY 226	0	0	0	0	0	0	0
DAY 227	0	0	0	0	0	0	0
DAY 228	0	999	0	10	969	7	0
DAY 229	0	0	0	0	0	0	0
DAY 230	0	0	0	0	0	0	0
DAY 231	0	0	0	0	0	0	0
DAY 232	0	0	0	0	0	0	0
DAY 233	0	0	0	0	0	0	0
DAY 234	0	0	0	0	0	0	0
DAY 235	0	0	0	0	0	0	0
DAY 236	0	0	0	0	0	0	0
DAY 237	0	0	0	0	0	0	0
DAY 238	0	0	0	0	0	0	0
DAY 239	0	0	0	0	0	0	0
DAY 240	0	0	0	0	0	0	0
DAY 241	0	0	0	0	0	0	0
DAY 242	10,306	82,785	0	4,366	62,523	479	333,112
DAY 243	2,818	36,844	0	2,210	31,517	184	181,108
DAY 244	85,478	307,927	24,674	58,787	266,629	15,847	1,222,151
DAY 245	73,728	265,612	0	39,144	226,096	13,579	1,058,826
DAY 246	64,183	230,154	0	30,957	193,131	5,925	921,841
DAY 247	54,608	194,697	0	20,432	160,671	4,875	784,856
DAY 248	49,468	166,180	0	18,382	144,289	4,273	711,088
DAY 249	43,228	144,181	0	13,970	101,902	3,560	621,516
DAY 250	18,781	115,184	0	11,013	80,785	127	500,335
DAY 251	11,883	89,594	0	8,349	59,593	0	388,092
DAY 252	7,171	47,472	0	2,710	37,596	0	253,416
DAY 253	44,671	153,741	0	14,085	111,304	3,848	642,524
DAY 254	37,698	129,114	0	11,617	91,185	393	542,415
DAY 255	16,182	101,940	0	8,952	69,273	158	430,544
DAY 256	38,786	133,024	0	11,796	93,661	259	558,187
DAY 257	16,569	104,516	0	9,009	70,511	17	441,019
DAY 258	9,599	73,410	0	3,216	45,229	0	310,844
DAY 259	5,966	39,642	0	1,753	27,316	0	211,905
DAY 260	2,216	26,968	0	804	15,887	0	142,989
DAY 261	422	10,846	0	0	2,753	0	19,551
DAY 262	0	0	0	0	0	0	0
DAY 263	11,111	89,250	0	8,445	67,057	516	359,137
DAY 264	42,164	148,813	0	14,029	110,278	4,222	605,807
DAY 265	77,770	282,455	22,547	41,372	244,562	14,520	1,116,790
DAY 266	91,368	327,230	26,368	103,088	368,058	16,722	1,306,423
DAY 267	82,730	295,824	23,914	56,797	253,775	15,020	1,185,243

Table B3. (Continued)

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 268	103,148	363,840	29,755	185,495	420,450	18,709	1,474,968
DAY 269	109,775	384,147	31,662	197,202	445,790	71,777	1,569,777
DAY 270	114,559	398,812	33,036	205,631	464,759	92,884	1,638,245
DAY 271	109,026	378,313	31,433	195,555	438,967	71,050	1,559,209
DAY 272	236,368	1,049,270	67,904	650,301	972,979	272,709	3,366,127
DAY 273	230,442	1,020,388	66,195	633,804	945,220	240,859	3,281,823
DAY 274	221,926	978,931	63,741	610,131	904,984	231,732	3,160,642
DAY 275	211,931	930,264	60,861	582,357	860,483	198,203	3,018,389
DAY 276	220,435	971,750	63,299	605,842	899,279	230,003	3,139,538
DAY 277	242,258	1,074,316	69,566	666,076	995,781	279,134	3,450,335
DAY 278	236,702	1,047,236	67,963	650,604	968,632	272,556	3,371,299
DAY 279	233,366	1,031,010	66,998	641,284	952,952	243,435	3,323,871
DAY 280	231,880	1,023,795	66,564	637,089	945,757	241,783	3,302,783
DAY 281	275,163	1,213,770	79,000	767,183	1,136,621	316,721	3,919,126
DAY 282	326,585	1,431,600	167,143	1,059,954	1,337,409	1,788,457	4,651,366
DAY 283	332,129	1,454,537	169,976	1,077,855	1,358,186	1,818,763	4,730,371
DAY 284	319,173	1,391,413	163,338	975,202	1,297,155	1,122,879	4,545,974
DAY 285	307,698	1,335,538	157,457	939,772	1,244,919	1,052,494	4,382,649
DAY 286	298,442	1,290,476	152,713	911,182	1,203,339	1,020,579	4,250,932
DAY 287	291,406	1,256,228	83,649	810,902	1,169,278	996,304	4,150,823
DAY 288	295,840	1,277,888	84,917	903,015	1,191,719	1,011,508	4,214,024
DAY 289	292,874	1,263,425	84,058	893,802	1,175,388	1,001,242	4,171,864
DAY 290	287,318	1,236,385	82,455	799,195	1,150,515	982,062	4,092,827
DAY 291	284,722	1,223,823	81,702	791,820	1,138,943	883,558	4,055,935
DAY 292	307,286	1,333,793	157,212	937,974	1,246,629	1,050,674	4,377,269
DAY 293	366,478	1,592,940	187,515	1,188,487	1,616,314	2,006,366	5,220,137
DAY 294	363,142	1,576,674	185,802	1,177,506	1,598,992	1,987,990	5,172,709
DAY 295	359,806	1,560,448	184,089	1,166,525	1,581,834	1,969,614	5,125,281
DAY 296	358,320	1,553,233	183,323	1,161,593	1,573,991	1,961,404	5,104,193
DAY 297	356,464	1,544,216	182,368	1,155,450	1,564,288	1,951,160	5,077,837
DAY 298	353,868	1,531,595	181,034	1,146,889	1,550,866	1,936,851	5,040,944
DAY 299	349,792	1,511,764	178,942	1,133,489	1,404,644	1,914,409	4,982,980
DAY 300	340,166	1,464,900	174,008	1,101,944	1,361,370	1,861,470	4,845,995
DAY 301	317,961	1,357,054	162,634	969,302	1,264,635	1,117,153	4,529,898
DAY 302	303,896	1,291,541	155,427	925,894	1,202,838	1,038,042	4,329,696
DAY 303	297,230	1,260,505	85,261	905,282	1,173,969	1,015,176	4,234,856
DAY 304	292,784	1,239,812	83,977	891,510	1,151,316	999,905	4,171,624
DAY 305	287,598	1,215,672	82,480	798,047	1,128,831	982,103	4,097,855
DAY 306	283,892	1,198,427	81,408	787,552	1,112,774	325,135	4,045,159
DAY 307	281,296	1,186,430	80,656	780,177	1,101,706	322,077	4,008,267
DAY 308	282,400	1,191,870	80,967	783,203	1,106,538	323,299	4,024,055
DAY 309	276,845	1,166,671	79,364	767,529	1,082,618	316,811	3,945,018
DAY 310	270,919	1,140,613	77,654	750,952	1,057,843	309,920	3,860,714
DAY 311	265,733	1,118,667	76,157	736,436	1,025,481	303,880	3,786,945
DAY 312	259,437	1,092,019	74,341	718,829	998,746	296,564	3,697,373

Table B3. (Continued)

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 313	254,251	1,070,073	72,844	694,063	977,240	290,524	3,623,604
DAY 314	249,436	1,049,693	71,453	680,771	957,242	284,911	3,555,104
DAY 315	243,510	1,024,613	69,744	664,434	928,402	278,019	3,470,800
DAY 316	239,064	1,005,801	68,459	652,157	908,932	272,832	3,407,567
DAY 317	233,138	980,720	66,750	635,820	884,545	240,934	3,323,263
DAY 318	228,322	960,341	65,359	622,528	864,655	235,839	3,254,762
DAY 319	223,506	939,962	63,969	609,236	843,976	230,744	3,186,262
DAY 320	217,211	913,314	62,153	591,883	818,113	224,105	3,096,690
DAY 321	211,285	888,234	60,443	575,546	793,747	195,271	3,012,385
DAY 322	226,448	962,159	64,795	617,484	863,824	233,904	3,228,358
DAY 323	222,002	940,487	63,511	605,088	842,071	229,105	3,165,126
DAY 324	217,927	920,656	62,333	593,717	823,011	224,700	3,107,162
DAY 325	214,221	902,628	61,262	583,371	805,648	197,812	3,054,465
DAY 326	209,035	878,801	59,765	568,985	782,742	192,829	2,980,697
DAY 327	203,479	855,287	58,161	553,662	759,870	187,561	2,901,660
DAY 328	197,923	831,774	56,558	538,340	737,272	181,414	2,822,624
DAY 329	194,217	606,398	55,487	528,094	714,437	177,892	2,769,928
DAY 330	194,581	607,836	55,585	529,025	715,730	178,166	2,775,180
DAY 331	190,506	594,703	54,407	517,754	697,735	174,292	2,717,215
DAY 332	183,840	573,667	52,485	499,386	670,773	168,015	2,622,375
DAY 333	176,566	551,463	50,456	401,300	641,984	161,394	2,522,266
DAY 334	172,126	537,437	49,172	391,017	624,056	157,183	2,459,034
DAY 335	167,686	523,411	47,887	379,241	606,128	152,972	2,395,802
DAY 336	162,877	490,598	46,497	361,628	586,740	148,417	2,327,301
DAY 337	158,437	477,051	45,213	340,287	568,127	141,412	2,264,069
DAY 338	158,431	477,045	45,205	340,193	567,721	141,334	2,264,053
DAY 339	153,207	462,369	43,814	329,645	548,354	136,865	2,195,552
DAY 340	148,042	446,565	42,317	312,358	516,777	132,059	2,121,784
DAY 341	145,088	437,531	41,458	305,950	505,400	113,306	2,079,624
DAY 342	143,239	431,883	40,918	301,910	498,136	111,747	2,053,268
DAY 343	141,391	426,235	40,379	297,587	489,462	110,188	2,026,911
DAY 344	138,806	418,329	39,626	291,974	479,582	108,037	1,990,019
DAY 345	134,009	403,654	38,236	281,630	461,582	104,108	1,921,519
DAY 346	130,687	393,491	37,270	274,439	448,995	101,365	1,874,091
DAY 347	123,679	372,045	35,242	215,497	421,298	95,659	1,773,982
DAY 348	119,620	359,626	34,064	208,193	398,462	92,323	1,716,018
DAY 349	118,140	355,106	33,630	205,476	392,762	91,060	1,694,930
DAY 350	112,238	337,045	31,921	194,894	370,472	69,211	1,610,625
DAY 351	103,020	308,828	29,254	178,412	330,614	16,510	1,478,908
DAY 352	98,223	294,152	27,863	169,796	312,140	15,611	1,410,408
DAY 353	95,269	285,118	27,004	122,656	300,621	15,028	1,368,248
DAY 354	88,999	265,929	25,188	56,836	204,208	13,876	1,278,675
DAY 355	78,702	235,454	22,309	38,145	175,200	12,093	1,136,422
DAY 356	81,463	245,033	23,045	51,833	183,883	12,510	1,173,283
DAY 357	72,819	217,387	0	35,002	158,529	10,927	1,052,102

Table B3. (Continued)

	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
DAY 358	67,677	201,583	0	30,172	144,496	4,690	978,334
DAY 359	69,138	207,071	0	32,682	149,436	4,761	999,390
DAY 360	66,197	197,057	0	28,449	140,042	4,415	957,229
DAY 361	52,954	142,702	0	17,071	94,758	3,260	767,564
DAY 362	45,614	123,090	0	12,491	78,112	2,583	662,188
DAY 363	43,775	118,183	0	11,833	73,629	2,356	635,832
DAY 364	43,035	116,216	0	11,513	71,606	2,218	625,280
DAY 365	41,929	113,269	0	11,039	68,774	0	609,459

Table B4.1. The summary and interpretation of results from a 1-year simulation using 14 ppt of upper salinity threshold for drinkable water.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	826	582	252	4	6	224	3
Cudjoe	1,022	720	1259	3	6	217	3
Knockemdown / Summerland	1,977	1,392	639	2	8	155	5
Torches / Ramrod	13,439	9,464	1124	1	94	287	33
Big Pine	55,520	39,098	2589	0	406	517	79
No Name	17,762	12,509	42	1	78	90	87
Little Pine	1,091	768	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B4.2. The summary and interpretation of results from a 1-year simulation using 14.5 ppt of upper salinity threshold for drinkable water.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	818	576	252	4	6	224	3
Cudjoe	1,022	720	1259	3	6	217	3
Knockemdown / Summerland	1,954	1,376	639	2	8	155	5
Torches / Ramrod	13,439	9,464	1124	1	94	287	33
Big Pine	55,486	39,075	2589	0	406	517	79
No Name	16,780	11,817	42	1	78	90	87
Little Pine	1,091	768	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B4.3. The summary and interpretation of results from a 1-year base line simulation.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	818	576	252	4	6	224	3
Cudjoe	1,022	720	1259	3	6	217	3
Knockemdown / Summerland	1,931	1,360	639	2	8	155	5
Torches / Ramrod	13,439	9,464	1124	1	94	287	33
Big Pine	55,277	38,928	2589	0	406	517	79
No Name	16,558	11,661	42	1	78	90	87
Little Pine	1,068	752	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B4.4. The summary and interpretation of results from a 1-year simulation using 15.5 ppt of upper salinity threshold for drinkable water.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	809	570	252	4	6	224	3
Cudjoe	1,022	720	1259	3	6	217	3
Knockemdown / Summerland	1,920	1,352	639	2	8	155	5
Torches / Ramrod	13,439	9,464	1124	1	94	287	33
Big Pine	55,242	38,903	2589	0	406	517	79
No Name	16,361	11,522	42	1	78	90	87
Little Pine	1,068	752	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B4.5. The summary and interpretation of results from a 1-year simulation using 16 ppt of upper salinity threshold for drinkable water.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	809	570	252	4	6	224	3
Cudjoe	1,022	720	1259	3	6	217	3
Knockemdown / Summerland	1,886	1,328	639	2	8	155	5
Torches / Ramrod	13,439	9,464	1124	1	94	287	33
Big Pine	55,072	38,783	2589	0	406	517	79
No Name	16,250	11,444	42	1	78	90	87
Little Pine	1,068	752	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B5.1. The summary and interpretation of results from a 1-year simulation using 1.136 liters (1.42 - 20 %) of daily water requirement.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	654	576	252	4	6	224	3
Cudjoe	818	720	1259	3	6	217	3
Knockemdown / Summerland	1,545	1,360	639	2	8	155	5
Torches / Ramrod	10,743	9,457	1124	1	94	287	33
Big Pine	43,574	38,357	2589	0	406	517	79
No Name	13,348	11,750	42	1	78	90	87
Little Pine	854	752	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B5.2. The summary and interpretation of results from a 1-year simulation using 1.278 liters (1.42 - 10 %) of daily water requirement.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	736	576	252	4	6	224	3
Cudjoe	920	720	1259	3	6	217	3
Knockemdown / Summerland	1,738	1,360	639	2	8	155	5
Torches / Ramrod	12,091	9,461	1124	1	94	287	33
Big Pine	49,354	38,618	2589	0	406	517	79
No Name	14,862	11,629	42	1	78	90	87
Little Pine	961	752	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B5.3. The summary and interpretation of results from a 1-year base line simulation.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	818	576	252	4	6	224	3
Cudjoe	1,022	720	1259	3	6	217	3
Knockemdown / Summerland	1,931	1,360	639	2	8	155	5
Torches / Ramrod	13,439	9,464	1124	1	94	287	33
Big Pine	55,277	38,928	2589	0	406	517	79
No Name	16,558	11,661	42	1	78	90	87
Little Pine	1,068	752	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B5.4. The summary and interpretation of results from a 1-year simulation using 1.562 liters (1.42 + 10 %) of daily water requirement.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	900	576	252	4	6	224	3
Cudjoe	1,125	720	1259	3	6	217	3
Knockemdown / Summerland	2,124	1,360	639	2	8	155	5
Torches / Ramrod	14,787	9,467	1124	1	94	287	33
Big Pine	61,394	39,305	2589	0	406	517	79
No Name	18,122	11,602	42	1	78	90	87
Little Pine	1,200	768	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B5.5. The summary and interpretation of results from a 1-year simulation using 1.704 liters (1.42 + 20 %) of daily water requirement.

Island - complex	liters of water shortage	# deer days of water shortage	# houses in 2000	distance from Big Pine Key	# deer in 2000	K based on habitat types	% of K
Sugarloaf	982	576	252	4	6	224	3
Cudjoe	1,227	720	1259	3	6	217	3
Knockemdown / Summerland	2,317	1,360	639	2	8	155	5
Torches / Ramrod	16,295	9,563	1124	1	94	287	33
Big Pine	67,988	39,899	2589	0	406	517	79
No Name	19,772	11,603	42	1	78	90	87
Little Pine	1,309	768	0	2	16	61	26

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

3. K means the carrying capacity of each island (Harveson, 2006).

Table B6.1. The summary of deer days of water shortage from the results of a 1-year simulation using the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

Island - complex	14 ppt 1.42 L	14.5 ppt 1.42 L	15 ppt 1.42 L	15.5 ppt 1.42 L	16 ppt 1.42 L	1.136 L 15 ppt	1.278 L 15 ppt	1.42 L 15 ppt	1.562 L 15 ppt	1.704 L 15 ppt
Sugarloaf	582	576	576	570	570	576	576	576	576	576
Cudjoe	720	720	720	720	720	720	720	720	720	720
Knockemdown / Summerland	1,392	1,376	1,360	1,352	1,328	1,360	1,360	1,360	1,360	1,360
Torches / Ramrod	9,464	9,464	9,464	9,464	9,464	9,457	9,461	9,464	9,467	9,563
Big Pine	39,098	39,075	38,928	38,903	38,783	38,357	38,618	38,928	39,305	39,899
No Name	12,509	11,817	11,661	11,522	11,444	11,750	11,629	11,661	11,602	11,603
Little Pine	768	768	752	752	752	752	752	752	768	768

1. Two deer days of water shortage indicate either one day without sufficient fresh water for two deer or two days of insufficient fresh water for one deer.

2. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

Table B6.2. The summary of liters of water shortage from the results of a 1-year simulation using the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

Island - complex	14 ppt 1.42 L	14.5 ppt 1.42 L	15 ppt 1.42 L	15.5 ppt 1.42 L	16 ppt 1.42 L	1.136 L 15 ppt	1.278 L 15 ppt	1.42 L 15 ppt	1.562 L 15 ppt	1.704 L 15 ppt
Sugarloaf	826	818	818	809	809	654	736	818	900	982
Cudjoe	1,022	1,022	1,022	1,022	1,022	818	920	1,022	1,125	1,227
Knockemdown / Summerland	1,977	1,954	1,931	1,920	1,886	1,545	1,738	1,931	2,124	2,317
Torches / Ramrod	13,439	13,439	13,439	13,439	13,439	10,743	12,091	13,439	14,787	16,295
Big Pine	55,520	55,486	55,277	55,242	55,072	43,574	49,354	55,277	61,394	67,988
No Name	17,762	16,780	16,558	16,361	16,250	13,348	14,862	16,558	18,122	19,772
Little Pine	1,091	1,091	1,068	1,068	1,068	854	961	1,068	1,200	1,309

1. The conditions of the base line simulation are 15 ppt of upper salinity threshold for drinkable water and 1.42 liters of daily water requirement by Key Deer with the precipitation data of Big Pine Key Inn station and the evaporation data of C-MAN weather station.

Table B7.1. The summary of deer days of fresh water shortage from the simulations using different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement, the salinity threshold for drinkable water).

#	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
1	576.00	720.00	1,392.00	9,379.79	36,867.32	12,201.13	752.00
	(P: **Big Pine Key**, E: **Long Key**, WR: **0.71 L**, WThr: **14 ppt**)						
2	576.00	720.00	1,376.00	9,373.47	36,842.84	11,811.13	752.00
	(P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: **14.5 ppt**)						
3	570.00	720.00	1,368.00	9,370.43	36,626.98	11,811.13	736.00
	(P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: **15 ppt**)						
4	570.00	720.00	1,360.00	9,273.08	36,605.38	11,655.13	736.00
	(P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: **15.5 ppt**)						
5	570.00	720.00	1,328.00	9,270.15	36,595.46	11,499.13	736.00
	(P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: **16 ppt**)						
6	582.00	720.00	1,392.00	9,464.09	39,098.28	12,508.76	768.00
	(P: Big Pine Key, E: Long Key, WR: **1.42 L**, WThr: 14 ppt)						
7	576.00	720.00	1,376.00	9,464.09	39,074.93	11,816.90	768.00
	(P: Big Pine Key, E: Long Key, WR: 1.42 L, WThr: **14.5 ppt**)						
8	576.00	720.00	1,360.00	9,464.09	38,927.57	11,660.90	752.00
	(P: Big Pine Key, E: Long Key, WR: 1.42 L, WThr: **15 ppt**)						
9	570.00	720.00	1,352.00	9,464.09	38,902.95	11,521.57	752.00
	(P: Big Pine Key, E: Long Key, WR: 1.42 L, WThr: **15.5 ppt**)						
10	570.00	720.00	1,328.00	9,464.09	38,783.05	11,443.57	752.00
	(P: Big Pine Key, E: Long Key, WR: 1.42 L, WThr: **16 ppt**)						
11	588.00	720.00	1,392.00	10,502.34	46,513.84	12,979.74	848.00
	(P: Big Pine Key, E: Long Key, WR: **5.962005 L**, WThr: 14 ppt)						
12	582.00	720.00	1,376.00	10,460.71	46,314.81	12,717.41	848.00
	(P: Big Pine Key, E: Long Key, WR: 5.962005 L, WThr: **14.5 ppt**)						
13	582.00	720.00	1,368.00	10,427.01	46,012.26	12,782.18	848.00
	(P: Big Pine Key, E: Long Key, WR: 5.962005 L, WThr: **15 ppt**)						
14	582.00	720.00	1,328.00	10,391.41	46,008.11	12,445.99	848.00
	(P: Big Pine Key, E: Long Key, WR: 5.962005 L, WThr: **15.5 ppt**)						
15	582.00	720.00	1,320.00	10,386.38	46,003.99	12,392.18	848.00
	(P: Big Pine Key, E: Long Key, WR: 5.962005 L, WThr: **16 ppt**)						

Table B7.1. (Continued)

#	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
16	450.00	606.00	1,128.00	7,802.00	29,850.52	11,343.13	448.00
	(P: Big Pine Key, E: **Belle Glade EXP,** WR: 0.71 L, WThr: 14 ppt)						
17	444.00	606.00	1,104.00	7,802.00	29,796.76	11,343.13	448.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 0.71 L, WThr: **14.5 ppt**)						
18	444.00	606.00	1,072.00	7,802.00	29,794.32	11,187.13	448.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 0.71 L, WThr: **15 ppt**)						
19	444.00	606.00	1,040.00	7,802.00	29,726.36	11,031.13	432.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 0.71 L, WThr: **15.5 ppt**)						
20	444.00	606.00	1,024.00	7,802.00	29,583.75	10,953.13	432.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 0.71 L, WThr: **16 ppt**)						
21	456.00	606.00	1,128.00	7,896.00	32,274.02	11,485.26	464.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: **1.42 L**, WThr: 14 ppt)						
22	456.00	606.00	1,096.00	7,896.00	32,261.51	11,324.91	464.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 1.42 L, WThr: **14.5 ppt**)						
23	450.00	606.00	1,072.00	7,896.00	32,208.96	11,246.70	464.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 1.42 L, WThr: **15 ppt**)						
24	444.00	606.00	1,040.00	7,896.00	32,178.12	11,209.57	448.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 1.42 L, WThr: **15.5 ppt**)						
25	444.00	606.00	1,016.00	7,896.00	32,171.96	10,975.57	448.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 1.42 L, WThr: **16 ppt**)						
26	474.00	612.00	1,096.00	8,911.00	38,990.78	11,831.96	528.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: **5.962005 L**, WThr: 14 ppt)						
27	474.00	606.00	1,088.00	8,879.36	38,976.00	11,832.08	528.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 5.962005 L, WThr: **14.5 ppt**)						
28	468.00	606.00	1,048.00	8,911.00	38,972.31	11,655.28	528.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 5.962005 L, WThr: **15 ppt**)						
29	468.00	606.00	1,032.00	8,843.34	38,955.01	11,297.16	528.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 5.962005 L, WThr: **15.5 ppt**)						
30	468.00	606.00	1,016.00	8,707.80	38,905.94	11,343.28	528.00
	(P: Big Pine Key, E: Belle Glade EXP, WR: 5.962005 L, WThr: **16 ppt**)						

Table B7.1. (Continued)

#	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
31	612.00	804.00	1,760.00	11,595.33	38,658.46	20,280.00	688.00
	(P: **Key West**, E: Long Key, WR: 0.71 L, WThr: 14 ppt)						
32	606.00	804.00	1,760.00	11,568.53	38,645.65	20,124.00	688.00
	(P: Key West, E: Long Key, WR: 0.71 L, WThr: **14.5 ppt**)						
33	600.00	804.00	1,760.00	11,345.86	38,636.30	20,046.00	688.00
	(P: Key West, E: Long Key, WR: 0.71 L, WThr: **15 ppt**)						
34	600.00	804.00	1,752.00	11,265.83	38,425.39	19,734.00	688.00
	(P: Key West, E: Long Key, WR: 0.71 L, WThr: **15.5 ppt**)						
35	594.00	804.00	1,752.00	11,171.63	38,417.73	19,734.00	688.00
	(P: Key West, E: Long Key, WR: 0.71 L, WThr: **16 ppt**)						
36	618.00	804.00	1,760.00	11,468.00	43,129.52	20,124.00	704.00
	(P: Key West, E: Long Key, WR: **1.42 L**, WThr: 14 ppt)						
37	618.00	804.00	1,760.00	11,374.00	42,793.67	20,046.00	704.00
	(P: Key West, E: Long Key, WR: 1.42 L, WThr: **14.5 ppt**)						
38	612.00	804.00	1,760.00	11,374.00	42,509.64	19,968.00	704.00
	(P: Key West, E: Long Key, WR: 1.42 L, WThr: **15 ppt**)						
39	612.00	804.00	1,752.00	11,356.48	42,220.87	19,734.00	704.00
	(P: Key West, E: Long Key, WR: 1.42 L, WThr: **15.5 ppt**)						
40	612.00	804.00	1,752.00	11,280.00	41,846.66	19,344.00	704.00
	(P: Key West, E: Long Key, WR: 1.42 L, WThr: **16 ppt**)						
41	654.00	816.00	1,768.00	12,107.08	50,798.76	17,327.33	816.00
	(P: Key West, E: Long Key, WR: **5.962005 L**, WThr: 14 ppt)						
42	654.00	816.00	1,760.00	12,089.66	50,530.98	17,327.33	816.00
	(P: Key West, E: Long Key, WR: 5.962005 L, WThr: **14.5 ppt**)						
43	654.00	816.00	1,760.00	12,089.66	50,527.06	17,093.33	816.00
	(P: Key West, E: Long Key, WR: 5.962005 L, WThr: **15 ppt**)						
44	654.00	816.00	1,752.00	12,015.45	50,331.91	17,093.33	816.00
	(P: Key West, E: Long Key, WR: 5.962005 L, WThr: **15.5 ppt**)						
45	654.00	816.00	1,752.00	12,015.45	50,323.85	17,093.33	816.00
	(P: Key West, E: Long Key, WR: 5.962005 L, WThr: **16 ppt**)						

Table B7.1. (Continued)

#	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
46	516.00	714.00	1,424.00	9,776.00	33,033.50	15,912.00	528.00
	(P: Key West, E: **Belle Glade EXP**, WR: 0.71 L, WThr: 14 ppt)						
47	510.00	708.00	1,400.00	9,776.00	32,994.44	15,600.00	528.00
	(P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: **14.5 ppt**)						
48	498.00	708.00	1,376.00	9,558.50	32,953.40	15,522.00	496.00
	(P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: **15 ppt**)						
49	492.00	708.00	1,368.00	9,501.67	32,943.90	15,522.00	496.00
	(P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: **15.5 ppt**)						
50	492.00	708.00	1,336.00	9,406.92	32,889.24	15,444.00	496.00
	(P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: **16 ppt**)						
51	522.00	714.00	1,424.00	9,588.00	36,362.59	15,834.00	544.00
	(P: Key West, E: Belle Glade EXP, WR: **1.42 L**, WThr: 14 ppt)						
52	522.00	714.00	1,400.00	9,588.00	36,359.09	15,678.00	544.00
	(P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: **14.5 ppt**)						
53	504.00	708.00	1,376.00	9,464.46	36,311.48	15,522.00	512.00
	(P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: **15 ppt**)						
54	498.00	708.00	1,368.00	9,400.00	36,017.62	15,522.00	512.00
	(P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: **15.5 ppt**)						
55	498.00	708.00	1,336.00	9,118.00	36,013.06	15,132.00	512.00
	(P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: **16 ppt**)						
56	546.00	714.00	1,416.00	9,980.69	42,563.21	15,756.00	640.00
	(P: Key West, E: Belle Glade EXP, WR: **5.962005 L**, WThr: 14 ppt)						
57	528.00	714.00	1,408.00	9,953.49	42,560.54	15,288.00	640.00
	(P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: **14.5 ppt**)						
58	528.00	714.00	1,376.00	9,930.17	42,412.21	15,213.66	608.00
	(P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: **15 ppt**)						
59	528.00	714.00	1,360.00	9,834.60	42,208.90	14,898.00	608.00
	(P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: **15.5 ppt**)						
60	528.00	714.00	1,336.00	9,807.02	42,207.53	15,054.00	608.00
	(P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: **16 ppt**)						

Table B7.2. The summary of the amount (liters) of fresh water shortage from the simulations using different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement, the salinity threshold for drinkable water).

#	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
1	408.96	511.20	988.32	6,659.65	26,175.80	8,662.80	533.92
	(P: **Big Pine Key**, E: **Long Key**, WR: **0.71 L**, WThr: **14 ppt**)						
2	408.96	511.20	976.96	6,655.17	26,158.42	8,385.90	533.92
	(P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: **14.5 ppt**)						
3	404.70	511.20	971.28	6,653.00	26,005.15	8,385.90	522.56
	(P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: **15 ppt**)						
4	404.70	511.20	965.60	6,583.89	25,989.82	8,275.14	522.56
	(P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: **15.5 ppt**)						
5	404.70	511.20	942.88	6,581.81	25,982.78	8,164.38	522.56
	(P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: **16 ppt**)						
6	826.44	1,022.40	1,976.64	13,439.00	55,519.56	17,762.43	1,090.56
	(P: Big Pine Key, E: Long Key, WR: **1.42 L**, WThr: 14 ppt)						
7	817.92	1,022.40	1,953.92	13,439.00	55,486.41	16,780.00	1,090.56
	(P: Big Pine Key, E: Long Key, WR: 1.42 L, WThr: **14.5 ppt**)						
8	817.92	1,022.40	1,931.20	13,439.00	55,277.14	16,558.48	1,067.84
	(P: Big Pine Key, E: Long Key, WR: 1.42 L, WThr: **15 ppt**)						
9	809.40	1,022.40	1,919.84	13,439.00	55,242.19	16,360.62	1,067.84
	(P: Big Pine Key, E: Long Key, WR: 1.42 L, WThr: **15.5 ppt**)						
10	809.40	1,022.40	1,885.76	13,439.00	55,071.94	16,249.86	1,067.84
	(P: Big Pine Key, E: Long Key, WR: 1.42 L, WThr: **16 ppt**)						
11	3,505.66	4,292.64	8,299.11	62,615.03	277,315.76	77,385.25	5,055.78
	(P: Big Pine Key, E: Long Key, WR: **5.962005 L**, WThr: 14 ppt)						
12	3,469.89	4,292.64	8,203.72	62,366.78	276,129.12	75,821.28	5,055.78
	(P: Big Pine Key, E: Long Key, WR: 5.962005 L, WThr: **14.5 ppt**)						
13	3,469.89	4,292.64	8,156.02	62,165.89	274,325.32	76,207.41	5,055.78
	(P: Big Pine Key, E: Long Key, WR: 5.962005 L, WThr: **15 ppt**)						
14	3,469.89	4,292.64	7,917.54	61,953.67	274,300.60	74,203.05	5,055.78
	(P: Big Pine Key, E: Long Key, WR: 5.962005 L, WThr: **15.5 ppt**)						
15	3,469.89	4,292.64	7,869.85	61,923.64	274,276.02	73,882.22	5,055.78
	(P: Big Pine Key, E: Long Key, WR: 5.962005 L, WThr: **16 ppt**)						

Table B7.2. (Continued)

#	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
16	319.50	430.26	800.88	5,539.42	21,193.87	8,053.62	318.08
	(P: Big Pine Key, E: **Belle Glade EXP,** WR: 0.71 L, WThr: 14 ppt)						
17	315.24	430.26	783.84	5,539.42	21,155.70	8,053.62	318.08
	(P: Big Pine Key, E: Belle Glade EXP, WR: 0.71 L, WThr: **14.5 ppt**)						
18	315.24	430.26	761.12	5,539.42	21,153.97	7,942.86	318.08
	(P: Big Pine Key, E: Belle Glade EXP, WR: 0.71 L, WThr: **15 ppt**)						
19	315.24	430.26	738.40	5,539.42	21,105.72	7,832.10	306.72
	(P: Big Pine Key, E: Belle Glade EXP, WR: 0.71 L, WThr: **15.5 ppt**)						
20	315.24	430.26	727.04	5,539.42	21,004.47	7,776.72	306.72
	(P: Big Pine Key, E: Belle Glade EXP, WR: 0.71 L, WThr: **16 ppt**)						
21	647.52	860.52	1,601.76	11,212.32	45,829.11	16,309.08	658.88
	(P: Big Pine Key, E: Belle Glade EXP, WR: **1.42 L**, WThr: 14 ppt)						
22	647.52	860.52	1,556.32	11,212.32	45,811.34	16,081.38	658.88
	(P: Big Pine Key, E: Belle Glade EXP, WR: 1.42 L, WThr: **14.5 ppt**)						
23	639.00	860.52	1,522.24	11,212.32	45,736.72	15,970.32	658.88
	(P: Big Pine Key, E: Belle Glade EXP, WR: 1.42 L, WThr: **15 ppt**)						
24	630.48	860.52	1,476.80	11,212.32	45,692.93	15,917.58	636.16
	(P: Big Pine Key, E: Belle Glade EXP, WR: 1.42 L, WThr: **15.5 ppt**)						
25	630.48	860.52	1,442.72	11,212.32	45,684.18	15,585.30	636.16
	(P: Big Pine Key, E: Belle Glade EXP, WR: 1.42 L, WThr: **16 ppt**)						
26	2,825.99	3,648.75	6,534.36	53,127.44	232,463.24	70,542.18	3,147.94
	(P: Big Pine Key, E: Belle Glade EXP, WR: **5.962005 L**, WThr: 14 ppt)						
27	2,825.99	3,612.98	6,486.66	52,938.78	232,375.11	70,542.93	3,147.94
	(P: Big Pine Key, E: Belle Glade EXP, WR: 5.962005 L, WThr: **14.5 ppt**)						
28	2,790.22	3,612.98	6,248.18	53,127.44	232,353.14	69,488.86	3,147.94
	(P: Big Pine Key, E: Belle Glade EXP, WR: 5.962005 L, WThr: **15 ppt**)						
29	2,790.22	3,612.98	6,152.79	52,724.04	232,249.97	67,353.75	3,147.94
	(P: Big Pine Key, E: Belle Glade EXP, WR: 5.962005 L, WThr: **15.5 ppt**)						
30	2,790.22	3,612.98	6,057.40	51,915.94	231,957.42	67,628.71	3,147.94
	(P: Big Pine Key, E: Belle Glade EXP, WR: 5.962005 L, WThr: **16 ppt**)						

Table B7.2. (Continued)

#	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
31	434.52	570.84	1,249.60	8,232.68	27,447.51	14,398.80	488.48
	(P: **Key West**, E: Long Key, WR: 0.71 L, WThr: 14 ppt)						
32	430.26	570.84	1,249.60	8,213.66	27,438.41	14,288.04	488.48
	(P: Key West, E: Long Key, WR: 0.71 L, WThr: **14.5 ppt**)						
33	426.00	570.84	1,249.60	8,055.56	27,431.77	14,232.66	488.48
	(P: Key West, E: Long Key, WR: 0.71 L, WThr: **15 ppt**)						
34	426.00	570.84	1,243.92	7,998.74	27,282.02	14,011.14	488.48
	(P: Key West, E: Long Key, WR: 0.71 L, WThr: **15.5 ppt**)						
35	421.74	570.84	1,243.92	7,931.85	27,276.59	14,011.14	488.48
	(P: Key West, E: Long Key, WR: 0.71 L, WThr: **16 ppt**)						
36	877.56	1,141.68	2,499.20	16,284.56	61,243.92	28,576.08	999.68
	(P: Key West, E: Long Key, WR: **1.42 L**, WThr: 14 ppt)						
37	877.56	1,141.68	2,499.20	16,151.08	60,767.01	28,465.32	999.68
	(P: Key West, E: Long Key, WR: 1.42 L, WThr: **14.5 ppt**)						
38	869.04	1,141.68	2,499.20	16,151.08	60,363.68	28,354.56	999.68
	(P: Key West, E: Long Key, WR: 1.42 L, WThr: **15 ppt**)						
39	869.04	1,141.68	2,487.84	16,126.20	59,953.64	28,022.28	999.68
	(P: Key West, E: Long Key, WR: 1.42 L, WThr: **15.5 ppt**)						
40	869.04	1,141.68	2,487.84	16,017.60	59,422.26	27,468.48	999.68
	(P: Key West, E: Long Key, WR: 1.42 L, WThr: **16 ppt**)						
41	3,899.15	4,865.00	10,540.82	72,182.50	302,862.47	103,305.63	4,865.00
	(P: Key West, E: Long Key, WR: **5.962005 L**, WThr: 14 ppt)						
42	3,899.15	4,865.00	10,493.13	72,078.64	301,265.93	103,305.63	4,865.00
	(P: Key West, E: Long Key, WR: 5.962005 L, WThr: **14.5 ppt**)						
43	3,899.15	4,865.00	10,493.13	72,078.64	301,242.56	101,910.52	4,865.00
	(P: Key West, E: Long Key, WR: 5.962005 L, WThr: **15 ppt**)						
44	3,899.15	4,865.00	10,445.43	71,636.20	300,079.10	101,910.52	4,865.00
	(P: Key West, E: Long Key, WR: 5.962005 L, WThr: **15.5 ppt**)						
45	3,899.15	4,865.00	10,445.43	71,636.20	300,031.06	101,910.52	4,865.00
	(P: Key West, E: Long Key, WR: 5.962005 L, WThr: **16 ppt**)						

Table B7.2. (Continued)

#	Sugarloaf	Cudjoe	Knockemdown / Summerland	Torches / Ramrod	Big Pine	No Name	Little Pine
46	366.36	506.94	1,011.04	6,940.96	23,453.79	11,297.52	374.88
	(P: Key West, E: **Belle Glade EXP**, WR: 0.71 L, WThr: 14 ppt)						
47	362.10	502.68	994.00	6,940.96	23,426.05	11,076.00	374.88
	(P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: **14.5 ppt**)						
48	353.58	502.68	976.96	6,786.54	23,396.91	11,020.62	352.16
	(P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: **15 ppt**)						
49	349.32	502.68	971.28	6,746.18	23,390.17	11,020.62	352.16
	(P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: **15.5 ppt**)						
50	349.32	502.68	948.56	6,678.91	23,351.36	10,965.24	352.16
	(P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: **16 ppt**)						
51	741.24	1,013.88	2,022.08	13,614.96	51,634.88	22,484.28	772.48
	(P: Key West, E: Belle Glade EXP, WR: **1.42 L**, WThr: 14 ppt)						
52	741.24	1,013.88	1,988.00	13,614.96	51,629.90	22,262.76	772.48
	(P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: **14.5 ppt**)						
53	715.68	1,005.36	1,953.92	13,439.53	51,562.30	22,041.24	727.04
	(P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: **15 ppt**)						
54	707.16	1,005.36	1,942.56	13,348.00	51,145.02	22,041.24	727.04
	(P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: **15.5 ppt**)						
55	707.16	1,005.36	1,897.12	12,947.56	51,138.55	21,487.44	727.04
	(P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: **16 ppt**)						
56	3,255.25	4,256.87	8,442.20	59,504.91	253,762.09	93,937.35	3,815.68
	(P: Key West, E: Belle Glade EXP, WR: **5.962005 L**, WThr: 14 ppt)						
57	3,147.94	4,256.87	8,394.50	59,342.73	253,746.12	91,147.13	3,815.68
	(P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: **14.5 ppt**)						
58	3,147.94	4,256.87	8,203.72	59,203.73	252,861.78	90,703.92	3,624.90
	(P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: **15 ppt**)						
59	3,147.94	4,256.87	8,108.33	58,633.93	251,649.67	88,821.95	3,624.90
	(P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: **15.5 ppt**)						
60	3,147.94	4,256.87	7,965.24	58,469.49	251,641.52	89,752.02	3,624.90
	(P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: **16 ppt**)						

Table B7.3.1. The summary of the liters (deer days) of fresh water shortage from the simulations of Sugarloaf Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

SUGARLOAF KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	409 (576)	826 (582)	3,506 (588)
14.5 ppt	409 (576)	818 (576)	3,470 (582)
15 ppt	405 (570)	818 (576)	3,470 (582)
15.5 ppt	405 (570)	809 (570)	3,470 (582)
16 ppt	405 (570)	809 (570)	3,470 (582)

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	320 (450)	648 (456)	2,826 (474)
14.5 ppt	**315** (**444**)	648 (456)	2,826 (474)
15 ppt	**315** (**444**)	639 (450)	2,790 (468)
15.5 ppt	**315** (**444**)	630 (**444**)	2,790 (468)
16 ppt	**315** (**444**)	630 (**444**)	2,790 (468)

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	435 (612)	878 (618)	3,899 (654)
14.5 ppt	430 (606)	878 (618)	3,899 (654)
15 ppt	426 (600)	869 (612)	3,899 (654)
15.5 ppt	426 (600)	869 (612)	3,899 (654)
16 ppt	422 (594)	869 (612)	3,899 (654)

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	366 (516)	741 (522)	3,255 (546)
14.5 ppt	362 (510)	741 (522)	3,148 (528)
15 ppt	354 (498)	716 (504)	3,148 (528)
15.5 ppt	349 (492)	707 (498)	3,148 (528)
16 ppt	349 (492)	707 (498)	3,148 (528)

Table B7.3.2. The summary of the liters (deer days) of fresh water shortage from the simulations of Cudjoe Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

CUDJOE KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	511 (720)	1,022 (720)	4,293 (720)
14.5 ppt	511 (720)	1,022 (720)	4,293 (720)
15 ppt	511 (720)	1,022 (720)	4,293 (720)
15.5 ppt	511 (720)	1,022 (720)	4,293 (720)
16 ppt	511 (720)	1,022 (720)	4,293 (720)

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	**430** (**606**)	861 (**606**)	3,649 (612)
14.5 ppt	**430** (**606**)	861 (**606**)	3,613 (**606**)
15 ppt	**430** (**606**)	861 (**606**)	3,613 (**606**)
15.5 ppt	**430** (**606**)	861 (**606**)	3,613 (**606**)
16 ppt	**430** (**606**)	861 (**606**)	3,613 (**606**)

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	571 (804)	1,142 (804)	4,865 (816)
14.5 ppt	571 (804)	1,142 (804)	4,865 (816)
15 ppt	571 (804)	1,142 (804)	4,865 (816)
15.5 ppt	571 (804)	1,142 (804)	4,865 (816)
16 ppt	571 (804)	1,142 (804)	4,865 (816)

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	507 (714)	1,014 (714)	4,257 (714)
14.5 ppt	503 (708)	1,014 (714)	4,257 (714)
15 ppt	503 (708)	1,005 (708)	4,257 (714)
15.5 ppt	503 (708)	1,005 (708)	4,257 (714)
16 ppt	503 (708)	1,005 (708)	4,257 (714)

Table B7.3.3. The summary of the liters (deer days) of fresh water shortage from the simulations of Knockemdown/Summerland Keys with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

KNOCKEMDOWN AND SUMMERLAND KEYS

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	988 (1,392)	1,977 (1,392)	8,299 (1,392)
14.5 ppt	977 (1,376)	1,954 (1,376)	8,204 (1,376)
15 ppt	971 (1,368)	1,931 (1,360)	8,156 (1,368)
15.5 ppt	966 (1,360)	1,920 (1,352)	7,918 (1,328)
16 ppt	943 (1,328)	1,886 (1,328)	7,870 (1,320)

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	801 (1,128)	1,602 (1,128)	6,534 (1,096)
14.5 ppt	784 (1,104)	1,556 (1,096)	6,487 (1,088)
15 ppt	761 (1,072)	1,522 (1,072)	6,248 (1,048)
15.5 ppt	738 (1,040)	1,477 (1,040)	6,153 (1,032)
16 ppt	**727** (1,024)	1,443 (**1,016**)	6,057 (**1,016**)

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	1,250 (1,760)	2,499 (1,760)	10,541 (1,768)
14.5 ppt	1,250 (1,760)	2,499 (1,760)	10,493 (1,760)
15 ppt	1,250 (1,760)	2,499 (1,760)	10,493 (1,760)
15.5 ppt	1,244 (1,752)	2,488 (1,752)	10,445 (1,752)
16 ppt	1,244 (1,752)	2,488 (1,752)	10,445 (1,752)

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	1,011 (1,424)	2,022 (1,424)	8,442 (1,416)
14.5 ppt	994 (1,400)	1,988 (1,400)	8,395 (1,408)
15 ppt	977 (1,376)	1,954 (1,376)	8,204 (1,376)
15.5 ppt	971 (1,368)	1,943 (1,368)	8,108 (1,360)
16 ppt	949 (1,336)	1,897 (1,336)	7,965 (1,336)

Table B7.3.4. The summary of the liters (deer days) of fresh water shortage from the simulations of Torches/Ramrod Keys with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

TORCHES AND RAMROD KEYS

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	 1.42 L	 5.962005 L
14 ppt	6,660 (9,380)	13,439 (9,464)	62,615 (10,502)
14.5 ppt	6,655 (9,373)	13,439 (9,464)	62,367 (10,461)
15 ppt	6,653 (9,370)	13,439 (9,464)	62,166 (10,427)
15.5 ppt	6,584 (9,273)	13,439 (9,464)	61,954 (10,391)
16 ppt	6,582 (9,270)	13,439 (9,464)	61,924 (10,386)

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	 1.42 L	 5.962005 L
14 ppt	**5,539** (**7,802**)	11,212 (7,896)	53,127 (8,911)
14.5 ppt	**5,539** (**7,802**)	11,212 (7,896)	52,939 (8,879)
15 ppt	**5,539** (**7,802**)	11,212 (7,896)	53,127 (8,911)
15.5 ppt	**5,539** (**7,802**)	11,212 (7,896)	52,724 (8,843)
16 ppt	**5,539** (**7,802**)	11,212 (7,896)	51,916 (8,708)

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	 1.42 L	 5.962005 L
14 ppt	8,233 (11,595)	16,285 (11,468)	72,183 (12,107)
14.5 ppt	8,214 (11,569)	16,151 (11,374)	72,079 (12,090)
15 ppt	8,056 (11,346)	16,151 (11,374)	72,079 (12,090)
15.5 ppt	7,999 (11,266)	16,126 (11,356)	71,636 (12,015)
16 ppt	7,932 (11,172)	16,018 (11,280)	71,636 (12,015)

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	 1.42 L	 5.962005 L
14 ppt	6,941 (9,776)	13,615 (9,588)	59,505 (9,981)
14.5 ppt	6,941 (9,776)	13,615 (9,588)	59,343 (9,953)
15 ppt	6,787 (9,559)	13,440 (9,464)	59,204 (9,930)
15.5 ppt	6,746 (9,502)	13,348 (9,400)	58,634 (9,835)
16 ppt	6,679 (9,407)	12,948 (9,118)	58,469 (9,807)

Table B7.3.5. The summary of the liters (deer days) of fresh water shortage from the simulations of Big Pine Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

BIG PINE KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L	1.42 L	5.962005 L
14 ppt	26,176 (36,867)	55,520 (39,098)	277,316 (46,514)
14.5 ppt	26,158 (36,843)	55,486 (39,075)	276,129 (46,315)
15 ppt	26,005 (36,627)	55,277 (38,928)	274,325 (46,012)
15.5 ppt	25,990 (36,605)	55,242 (38,903)	274,301 (46,008)
16 ppt	25,983 (36,595)	55,072 (38,783)	274,276 (46,004)

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L	1.42 L	5.962005 L
14 ppt	21,194 (29,851)	45,829 (32,274)	232,463 (38,991)
14.5 ppt	21,156 (29,797)	45,811 (32,262)	232,375 (38,976)
15 ppt	21,154 (29,794)	45,737 (32,209)	232,353 (38,972)
15.5 ppt	21,106 (29,726)	45,693 (32,178)	232,250 (38,955)
16 ppt	**21,004** (**29,584**)	45,684 (32,172)	231,957 (38,906)

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L	1.42 L	5.962005 L
14 ppt	27,448 (38,658)	61,244 (43,130)	302,862 (50,799)
14.5 ppt	27,438 (38,646)	60,767 (42,794)	301,266 (50,531)
15 ppt	27,432 (38,636)	60,364 (42,510)	301,243 (50,527)
15.5 ppt	27,282 (38,425)	59,954 (42,221)	300,079 (50,332)
16 ppt	27,277 (38,418)	59,422 (41,847)	300,031 (50,324)

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L	1.42 L	5.962005 L
14 ppt	23,454 (33,034)	51,635 (36,363)	253,762 (42,563)
14.5 ppt	23,426 (32,994)	51,630 (36,359)	253,746 (42,561)
15 ppt	23,397 (32,953)	51,562 (36,311)	252,862 (42,412)
15.5 ppt	23,390 (32,944)	51,145 (36,018)	251,650 (42,209)
16 ppt	23,351 (32,889)	51,139 (36,013)	251,642 (42,208)

Table B7.3.6. The summary of the liters (deer days) of fresh water shortage from the simulations of No Name Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

NO NAME KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	8,663 (12,201)	17,762 (12,509)	77,385 (12,980)
14.5 ppt	8,386 (11,811)	16,780 (11,817)	75,821 (12,717)
15 ppt	8,386 (11,811)	16,558 (11,661)	76,207 (12,782)
15.5 ppt	8,275 (11,655)	16,361 (11,522)	74,203 (12,446)
16 ppt	8,164 (11,499)	16,250 (11,444)	73,882 (12,392)

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	8,054 (11,343)	16,309 (11,485)	70,542 (11,832)
14.5 ppt	8,054 (11,343)	16,081 (11,325)	70,543 (11,832)
15 ppt	7,943 (11,187)	15,970 (11,247)	69,489 (11,655)
15.5 ppt	7,832 (11,031)	15,918 (11,210)	67,354 (11,297)
16 ppt	**7,777** (**10,953**)	15,585 (10,976)	67,629 (11,343)

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	14,399 (20,280)	28,576 (20,124)	103,306 (17,327)
14.5 ppt	14,288 (20,124)	28,465 (20,046)	103,306 (17,327)
15 ppt	14,233 (20,046)	28,355 (19,968)	101,911 (17,093)
15.5 ppt	14,011 (19,734)	28,022 (19,734)	101,911 (17,093)
16 ppt	14,011 (19,734)	27,468 (19,344)	101,911 (17,093)

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	11,298 (15,912)	22,484 (15,834)	93,937 (15,756)
14.5 ppt	11,076 (15,600)	22,263 (15,678)	91,147 (15,288)
15 ppt	11,021 (15,522)	22,041 (15,522)	90,704 (15,214)
15.5 ppt	11,021 (15,522)	22,041 (15,522)	88,822 (14,898)
16 ppt	10,965 (15,444)	21,487 (15,132)	89,752 (15,054)

Table B7.3.7. The summary of the liters (deer days) of fresh water shortage from the simulations of Little Pine Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

LITTLE PINE KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	534 (752)	1,091 (768)	5,056 (848)
14.5 ppt	534 (752)	1,091 (768)	5,056 (848)
15 ppt	523 (736)	1,068 (752)	5,056 (848)
15.5 ppt	523 (736)	1,068 (752)	5,056 (848)
16 ppt	523 (736)	1,068 (752)	5,056 (848)

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	318 (448)	659 (464)	3,148 (528)
14.5 ppt	318 (448)	659 (464)	3,148 (528)
15 ppt	318 (448)	659 (464)	3,148 (528)
15.5 ppt	**307** (**432**)	636 (448)	3,148 (528)
16 ppt	**307** (**432**)	636 (448)	3,148 (528)

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	488 (688)	1,000 (704)	4,865 (816)
14.5 ppt	488 (688)	1,000 (704)	4,865 (816)
15 ppt	488 (688)	1,000 (704)	4,865 (816)
15.5 ppt	488 (688)	1,000 (704)	4,865 (816)
16 ppt	488 (688)	1,000 (704)	4,865 (816)

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L	1.42 L	5.962005 L
14 ppt	375 (528)	772 (544)	3,816 (640)
14.5 ppt	375 (528)	772 (544)	3,816 (640)
15 ppt	352 (496)	727 (512)	3,625 (608)
15.5 ppt	352 (496)	727 (512)	3,625 (608)
16 ppt	352 (496)	727 (512)	3,625 (608)

Table B8. The analysis of deer days of water shortage, the number of consecutive days of water shortage and the longest period of consecutive days of water shortage from the simulation of Knockemdown and Summerland Keys using Big Pine Key Inn station's precipitation data, C-MAN weather station's evaporation data, 1.42 liters of daily fresh water requirement and 15 ppt of the upper salinity threshold for drinkable water.

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
1	193,099.74	8	0	0	0	0	0	0	0	0
2	183,404.61	8	0	0	0	0	0	0	0	0
3	181,312.73	8	0	0	0	0	0	0	0	0
4	183,503.67	8	0	0	0	0	0	0	0	0
5	179,517.35	8	0	0	0	0	0	0	0	0
6	176,857.14	8	0	0	0	0	0	0	0	0
7	176,280.81	8	0	0	0	0	0	0	0	0
8	175,704.48	8	0	0	0	0	0	0	0	0
9	175,601.76	8	0	0	0	0	0	0	0	0
10	172,581.60	8	0	0	0	0	0	0	0	0
11	171,626.38	8	0	0	0	0	0	0	0	0
12	171,050.05	8	0	0	0	0	0	0	0	0
13	170,663.17	8	0	0	0	0	0	0	0	0
14	168,002.95	8	0	0	0	0	0	0	0	0
15	167,047.74	8	0	0	0	0	0	0	0	0
16	166,660.85	8	0	0	0	0	0	0	0	0
17	166,463.40	8	0	0	0	0	0	0	0	0
18	166,265.96	8	0	0	0	0	0	0	0	0
19	165,879.07	8	0	0	0	0	0	0	0	0
20	166,628.85	8	0	0	0	0	0	0	0	0
21	163,210.86	8	0	0	0	0	0	0	0	0
22	187,969.69	8	0	0	0	0	0	0	0	0
23	183,036.15	8	0	0	0	0	0	0	0	0
24	177,723.73	8	0	0	0	0	0	0	0	0
25	197,530.37	8	0	0	0	0	0	0	0	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
26	194,680.72	8	0	0	0	0	0	0	0	0
27	192,399.39	8	0	0	0	0	0	0	0	0
28	191,254.73	8	0	0	0	0	0	0	0	0
29	190,488.96	8	0	0	0	0	0	0	0	0
30	189,723.18	8	0	0	0	0	0	0	0	0
31	189,658.35	8	0	0	0	0	0	0	0	0
32	189,460.91	8	0	0	0	0	0	0	0	0
33	189,074.02	8	0	0	0	0	0	0	0	0
34	209,481.00	8	0	0	0	0	0	0	0	0
35	207,389.12	8	0	0	0	0	0	0	0	0
36	206,055.01	8	0	0	0	0	0	0	0	0
37	200,553.15	8	0	0	0	0	0	0	0	0
38	195,051.28	8	0	0	0	0	0	0	0	0
39	194,096.06	8	0	0	0	0	0	0	0	0
40	192,004.18	8	0	0	0	0	0	0	0	0
41	189,343.97	8	0	0	0	0	0	0	0	0
42	187,820.42	8	0	0	0	0	0	0	0	0
43	185,349.65	8	0	0	0	0	0	0	0	0
44	181,552.78	8	0	0	0	0	0	0	0	0
45	178,134.79	8	0	0	0	0	0	0	0	0
46	174,716.81	8	0	0	0	0	0	0	0	0
47	175,087.69	8	0	0	0	0	0	0	0	0
48	172,427.48	8	0	0	0	0	0	0	0	0
49	171,093.38	8	0	0	0	0	0	0	0	0
50	168,243.72	8	0	0	0	0	0	0	0	0
51	161,794.64	8	0	0	0	0	0	0	0	0
52	158,187.21	8	0	0	0	0	0	0	0	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
53	154,769.22	8	0	0	0	0	0	0	0	0
54	153,245.67	8	0	0	0	0	0	0	0	0
55	150,206.57	8	0	0	0	0	0	0	0	0
56	145,841.37	8	0	0	0	0	0	0	0	0
57	142,612.83	8	0	0	0	0	0	0	0	0
58	140,142.06	8	0	0	0	0	0	0	0	0
59	137,860.73	8	0	0	0	0	0	0	0	0
60	135,958.30	8	0	0	0	0	0	0	0	0
61	67,227.10	8	0	0	0	0	0	0	0	0
62	65,198.37	8	0	0	0	0	0	0	0	0
63	62,318.80	8	0	0	0	0	0	0	0	0
64	59,971.00	8	0	0	0	0	0	0	0	0
65	54,326.22	8	0	0	0	0	0	0	0	0
66	49,213.21	8	0	0	0	0	0	0	0	0
67	45,376.46	8	0	0	0	0	0	0	0	0
68	43,028.66	8	0	0	0	0	0	0	0	0
69	42,169.83	8	0	0	0	0	0	0	0	0
70	41,736.41	8	0	0	0	0	0	0	0	0
71	41,196.64	8	0	0	0	0	0	0	0	0
72	40,763.22	8	0	0	0	0	0	0	0	0
73	39,904.39	8	0	0	0	0	0	0	0	0
74	38,726.49	8	0	0	0	0	0	0	0	0
75	36,910.47	8	0	0	0	0	0	0	0	0
76	35,307.15	8	0	0	0	0	0	0	0	0
77	34,341.96	8	0	0	0	0	0	0	0	0
78	32,632.29	8	0	0	0	0	0	0	0	0
79	29,327.31	8	0	0	0	0	0	0	0	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
80	24,533.36	8	0	0	0	0	0	0	0	0
81	0	8	8	0	1	0	0	0	0	0
82	0	8	8	8	1	1	0	1	0	0
83	0	8	8	16	1	2	0	2	1	1
84	0	8	8	24	1	3	0	3	2	2
85	0	8	8	32	1	4	0	4	3	3
86	0	8	8	40	1	5	0	5	4	4
87	0	8	8	48	1	6	0	6	5	5
88	0	8	8	56	1	7	0	7	6	6
89	0	8	8	64	1	8	0	8	7	7
90	0	8	8	72	1	9	0	9	8	8
91	0	8	8	80	1	10	0	10	9	9
92	0	8	8	88	1	11	0	11	10	10
93	0	8	8	96	1	12	0	12	11	11
94	0	8	8	104	1	13	0	13	12	12
95	0	8	8	112	1	14	0	14	13	13
96	0	8	8	120	1	15	0	15	14	14
97	0	8	8	128	1	16	0	16	15	15
98	0	8	8	136	1	17	0	17	16	16
99	0	8	8	144	1	18	0	18	17	17
100	0	8	8	152	1	19	0	19	18	18
101	0	8	8	160	1	20	0	20	19	19
102	0	8	8	168	1	21	0	21	20	20
103	0	8	8	176	1	22	0	22	21	21
104	0	8	8	184	1	23	0	23	22	22
105	0	8	8	192	1	24	0	24	23	23
106	0	8	8	200	1	25	0	25	24	24

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
107	0	8	8	208	1	26	0	26	25	25
108	0	8	8	216	1	27	0	27	26	26
109	0	8	8	224	1	28	0	28	27	27
110	0	8	8	232	1	29	0	29	28	28
111	0	8	8	240	1	30	0	30	29	29
112	0	8	8	248	1	31	0	31	30	30
113	0	8	8	256	1	32	0	32	31	31
114	0	8	8	264	1	33	0	33	32	32
115	0	8	8	272	1	34	0	34	33	33
116	0	8	8	280	1	35	0	35	34	34
117	0	8	8	288	1	36	0	36	35	35
118	0	8	8	296	1	37	0	37	36	36
119	0	8	8	304	1	38	0	38	37	37
120	0	8	8	312	1	39	0	39	38	38
121	0	8	8	320	1	40	0	40	39	39
122	0	8	8	328	1	41	0	41	40	40
123	0	8	8	336	1	42	0	42	41	41
124	0	8	8	344	1	43	0	43	42	42
125	0	8	8	352	1	44	0	44	43	43
126	0	8	8	360	1	45	0	45	44	44
127	0	8	8	368	1	46	0	46	45	45
128	0	8	8	376	1	47	0	47	46	46
129	0	8	8	384	1	48	0	48	47	47
130	0	8	8	392	1	49	0	49	48	48
131	0	8	8	400	1	50	0	50	49	49
132	0	8	8	408	1	51	0	51	50	50
133	0	8	8	416	1	52	0	52	51	51

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
134	0	8	8	424	1	53	0	53	52	52
135	0	8	8	432	1	54	0	54	53	53
136	0	8	8	440	1	55	0	55	54	54
137	0	8	8	448	1	56	0	56	55	55
138	0	8	8	456	1	57	0	57	56	56
139	0	8	8	464	1	58	0	58	57	57
140	0	8	8	472	1	59	0	59	58	58
141	0	8	8	480	1	60	0	60	59	59
142	0	8	8	488	1	61	0	61	60	60
143	0	8	8	496	1	62	0	62	61	61
144	0	8	8	504	1	63	0	63	62	62
145	0	8	8	512	1	64	0	64	63	63
146	0	8	8	520	1	65	0	65	64	64
147	0	8	8	528	1	66	0	66	65	65
148	0	8	8	536	1	67	0	67	66	66
149	0	8	8	544	1	68	0	68	67	67
150	0	8	8	552	1	69	0	69	68	68
151	0	8	8	560	1	70	0	70	69	69
152	0	8	8	568	1	71	0	71	70	70
153	0	8	8	576	1	72	0	72	71	71
154	24,248.79	8	0	584	0	73	73	73	72	72
155	41,895.61	8	0	584	0	0	0	0	73	0
156	67,519.01	8	0	584	0	0	0	0	73	0
157	64,639.44	8	0	584	0	0	0	0	73	0
158	65,375.92	8	0	584	0	0	0	0	73	0
159	63,134.48	8	0	584	0	0	0	0	73	0
160	61,105.75	8	0	584	0	0	0	0	73	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
161	59,289.72	8	0	584	0	0	0	0	73	0
162	56,941.93	8	0	584	0	0	0	0	73	0
163	53,956.01	8	0	584	0	0	0	0	73	0
164	50,544.67	8	0	584	0	0	0	0	73	0
165	47,452.39	8	0	584	0	0	0	0	73	0
166	44,891.89	8	0	584	0	0	0	0	73	0
167	41,799.61	8	0	584	0	0	0	0	73	0
168	39,345.46	8	0	584	0	0	0	0	73	0
169	36,678.60	8	0	584	0	0	0	0	73	0
170	32,948.20	8	0	584	0	0	0	0	73	0
171	31,770.30	8	0	584	0	0	0	0	73	0
172	28,784.38	8	0	584	0	0	0	0	73	0
173	26,330.23	8	0	584	0	0	0	0	73	0
174	24,407.85	8	0	584	0	0	0	0	73	0
175	0	8	8	584	1	0	0	0	73	0
176	0	8	8	592	1	1	0	0	73	0
177	0	8	8	600	1	2	0	0	73	0
178	0	8	8	608	1	3	0	0	73	0
179	0	8	8	616	1	4	0	0	73	0
180	0	8	8	624	1	5	0	0	73	0
181	0	8	8	632	1	6	0	0	73	0
182	0	8	8	640	1	7	0	0	73	0
183	0	8	8	648	1	8	0	0	73	0
184	0	8	8	656	1	9	0	0	73	0
185	0	8	8	664	1	10	0	0	73	0
186	0	8	8	672	1	11	0	0	73	0
187	0	8	8	680	1	12	0	0	73	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
188	0	8	8	688	1	13	0	0	73	0
189	0	8	8	696	1	14	0	0	73	0
190	0	8	8	704	1	15	0	0	73	0
191	0	8	8	712	1	16	0	0	73	0
192	0	8	8	720	1	17	0	0	73	0
193	0	8	8	728	1	18	0	0	73	0
194	0	8	8	736	1	19	0	0	73	0
195	0	8	8	744	1	20	0	0	73	0
196	0	8	8	752	1	21	0	0	73	0
197	0	8	8	760	1	22	0	0	73	0
198	0	8	8	768	1	23	0	0	73	0
199	0	8	8	776	1	24	0	0	73	0
200	0	8	8	784	1	25	0	0	73	0
201	0	8	8	792	1	26	0	0	73	0
202	0	8	8	800	1	27	0	0	73	0
203	0	8	8	808	1	28	0	0	73	0
204	0	8	8	816	1	29	0	0	73	0
205	0	8	8	824	1	30	0	0	73	0
206	0	8	8	832	1	31	0	0	73	0
207	0	8	8	840	1	32	0	0	73	0
208	0	8	8	848	1	33	0	0	73	0
209	0	8	8	856	1	34	0	0	73	0
210	0	8	8	864	1	35	0	0	73	0
211	0	8	8	872	1	36	0	0	73	0
212	0	8	8	880	1	37	0	0	73	0
213	0	8	8	888	1	38	0	0	73	0
214	0	8	8	896	1	39	0	0	73	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
215	0	8	8	904	1	40	0	0	73	0
216	0	8	8	912	1	41	0	0	73	0
217	0	8	8	920	1	42	0	0	73	0
218	0	8	8	928	1	43	0	0	73	0
219	0	8	8	936	1	44	0	0	73	0
220	0	8	8	944	1	45	0	0	73	0
221	0	8	8	952	1	46	0	0	73	0
222	0	8	8	960	1	47	0	0	73	0
223	0	8	8	968	1	48	0	0	73	0
224	0	8	8	976	1	49	0	0	73	0
225	0	8	8	984	1	50	0	0	73	0
226	0	8	8	992	1	51	0	0	73	0
227	0	8	8	1,000	1	52	0	0	73	0
228	0	8	8	1,008	1	53	0	0	73	0
229	0	8	8	1,016	1	54	0	0	73	0
230	0	8	8	1,024	1	55	0	0	73	0
231	0	8	8	1,032	1	56	0	0	73	0
232	0	8	8	1,040	1	57	0	0	73	0
233	0	8	8	1,048	1	58	0	0	73	0
234	0	8	8	1,056	1	59	0	0	73	0
235	0	8	8	1,064	1	60	0	0	73	0
236	0	8	8	1,072	1	61	0	0	73	0
237	0	8	8	1,080	1	62	0	0	73	0
238	0	8	8	1,088	1	63	0	0	73	0
239	0	8	8	1,096	1	64	0	0	73	0
240	0	8	8	1,104	1	65	0	0	73	0
241	0	8	8	1,112	1	66	0	0	73	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
242	0	8	8	1,120	1	67	0	0	73	0
243	0	8	8	1,128	1	68	0	0	73	0
244	24,674.21	8	0	1,136	0	69	69	0	73	0
245	0	8	8	1,136	1	0	0	0	73	0
246	0	8	8	1,144	1	1	0	0	73	0
247	0	8	8	1,152	1	2	0	0	73	0
248	0	8	8	1,160	1	3	0	0	73	0
249	0	8	8	1,168	1	4	0	0	73	0
250	0	8	8	1,176	1	5	0	0	73	0
251	0	8	8	1,184	1	6	0	0	73	0
252	0	8	8	1,192	1	7	0	0	73	0
253	0	8	8	1,200	1	8	0	0	73	0
254	0	8	8	1,208	1	9	0	0	73	0
255	0	8	8	1,216	1	10	0	0	73	0
256	0	8	8	1,224	1	11	0	0	73	0
257	0	8	8	1,232	1	12	0	0	73	0
258	0	8	8	1,240	1	13	0	0	73	0
259	0	8	8	1,248	1	14	0	0	73	0
260	0	8	8	1,256	1	15	0	0	73	0
261	0	8	8	1,264	1	16	0	0	73	0
262	0	8	8	1,272	1	17	0	0	73	0
263	0	8	8	1,280	1	18	0	0	73	0
264	0	8	8	1,288	1	19	0	0	73	0
265	22,547.12	8	0	1,296	0	20	20	0	73	0
266	26,367.88	8	0	1,296	0	0	0	0	73	0
267	23,913.73	8	0	1,296	0	0	0	0	73	0
268	29,755.22	8	0	1,296	0	0	0	0	73	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
269	31,661.59	8	0	1,296	0	0	0	0	73	0
270	33,036.20	8	0	1,296	0	0	0	0	73	0
271	31,432.89	8	0	1,296	0	0	0	0	73	0
272	67,904.43	8	0	1,296	0	0	0	0	73	0
273	66,194.76	8	0	1,296	0	0	0	0	73	0
274	63,740.61	8	0	1,296	0	0	0	0	73	0
275	60,861.04	8	0	1,296	0	0	0	0	73	0
276	63,299.19	8	0	1,296	0	0	0	0	73	0
277	69,566.10	8	0	1,296	0	0	0	0	73	0
278	67,962.78	8	0	1,296	0	0	0	0	73	0
279	66,997.59	8	0	1,296	0	0	0	0	73	0
280	66,564.17	8	0	1,296	0	0	0	0	73	0
281	78,999.63	8	0	1,296	0	0	0	0	73	0
282	167,142.76	8	0	1,296	0	0	0	0	73	0
283	169,976.42	8	0	1,296	0	0	0	0	73	0
284	163,337.89	8	0	1,296	0	0	0	0	73	0
285	157,457.14	8	0	1,296	0	0	0	0	73	0
286	152,713.05	8	0	1,296	0	0	0	0	73	0
287	83,648.78	8	0	1,296	0	0	0	0	73	0
288	84,917.03	8	0	1,296	0	0	0	0	73	0
289	84,058.20	8	0	1,296	0	0	0	0	73	0
290	82,454.88	8	0	1,296	0	0	0	0	73	0
291	81,702.40	8	0	1,296	0	0	0	0	73	0
292	157,211.69	8	0	1,296	0	0	0	0	73	0
293	187,514.68	8	0	1,296	0	0	0	0	73	0
294	185,801.69	8	0	1,296	0	0	0	0	73	0
295	184,088.70	8	0	1,296	0	0	0	0	73	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
296	183,322.92	8	0	1,296	0	0	0	0	73	0
297	182,367.70	8	0	1,296	0	0	0	0	73	0
298	181,033.60	8	0	1,296	0	0	0	0	73	0
299	178,941.72	8	0	1,296	0	0	0	0	73	0
300	174,008.18	8	0	1,296	0	0	0	0	73	0
301	162,633.56	8	0	1,296	0	0	0	0	73	0
302	155,426.70	8	0	1,296	0	0	0	0	73	0
303	85,261.09	8	0	1,296	0	0	0	0	73	0
304	83,976.83	8	0	1,296	0	0	0	0	73	0
305	82,479.87	8	0	1,296	0	0	0	0	73	0
306	81,408.33	8	0	1,296	0	0	0	0	73	0
307	80,655.85	8	0	1,296	0	0	0	0	73	0
308	80,966.91	8	0	1,296	0	0	0	0	73	0
309	79,363.60	8	0	1,296	0	0	0	0	73	0
310	77,653.93	8	0	1,296	0	0	0	0	73	0
311	76,156.97	8	0	1,296	0	0	0	0	73	0
312	74,340.94	8	0	1,296	0	0	0	0	73	0
313	72,843.98	8	0	1,296	0	0	0	0	73	0
314	71,453.38	8	0	1,296	0	0	0	0	73	0
315	69,743.71	8	0	1,296	0	0	0	0	73	0
316	68,459.45	8	0	1,296	0	0	0	0	73	0
317	66,749.78	8	0	1,296	0	0	0	0	73	0
318	65,359.18	8	0	1,296	0	0	0	0	73	0
319	63,968.57	8	0	1,296	0	0	0	0	73	0
320	62,152.55	8	0	1,296	0	0	0	0	73	0
321	60,442.88	8	0	1,296	0	0	0	0	73	0
322	64,795.41	8	0	1,296	0	0	0	0	73	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
323	63,511.15	8	0	1,296	0	0	0	0	73	0
324	62,333.26	8	0	1,296	0	0	0	0	73	0
325	61,261.71	8	0	1,296	0	0	0	0	73	0
326	59,764.75	8	0	1,296	0	0	0	0	73	0
327	58,161.44	8	0	1,296	0	0	0	0	73	0
328	56,558.12	8	0	1,296	0	0	0	0	73	0
329	55,486.58	8	0	1,296	0	0	0	0	73	0
330	55,584.93	8	0	1,296	0	0	0	0	73	0
331	54,407.04	8	0	1,296	0	0	0	0	73	0
332	52,484.66	8	0	1,296	0	0	0	0	73	0
333	50,455.92	8	0	1,296	0	0	0	0	73	0
334	49,171.67	8	0	1,296	0	0	0	0	73	0
335	47,887.42	8	0	1,296	0	0	0	0	73	0
336	46,496.81	8	0	1,296	0	0	0	0	73	0
337	45,212.56	8	0	1,296	0	0	0	0	73	0
338	45,204.56	8	0	1,296	0	0	0	0	73	0
339	43,813.96	8	0	1,296	0	0	0	0	73	0
340	42,316.99	8	0	1,296	0	0	0	0	73	0
341	41,458.16	8	0	1,296	0	0	0	0	73	0
342	40,918.39	8	0	1,296	0	0	0	0	73	0
343	40,378.62	8	0	1,296	0	0	0	0	73	0
344	39,626.14	8	0	1,296	0	0	0	0	73	0
345	38,235.53	8	0	1,296	0	0	0	0	73	0
346	37,270.34	8	0	1,296	0	0	0	0	73	0
347	35,241.61	8	0	1,296	0	0	0	0	73	0
348	34,063.71	8	0	1,296	0	0	0	0	73	0
349	33,630.29	8	0	1,296	0	0	0	0	73	0

Table B8. (Continued)

DAY	Supportable number of deer	The number of deer	Day in	Deer days of water shortage	Cday in	The no. of consecutive days of water shortage	Cday out	Lcday in	The longest period of consecutive days of water shortage	Lcday out
350	31,920.62	8	0	1,296	0	0	0	0	73	0
351	29,253.76	8	0	1,296	0	0	0	0	73	0
352	27,863.16	8	0	1,296	0	0	0	0	73	0
353	27,004.32	8	0	1,296	0	0	0	0	73	0
354	25,188.30	8	0	1,296	0	0	0	0	73	0
355	22,308.73	8	0	1,296	0	0	0	0	73	0
356	23,045.21	8	0	1,296	0	0	0	0	73	0
357	0	8	8	1,296	1	0	0	0	73	0
358	0	8	8	1,304	1	1	0	0	73	0
359	0	8	8	1,312	1	2	0	0	73	0
360	0	8	8	1,320	1	3	0	0	73	0
361	0	8	8	1,328	1	4	0	0	73	0
362	0	8	8	1,336	1	5	0	0	73	0
363	0	8	8	1,344	1	6	0	0	73	0
364	0	8	8	1,352	1	7	0	0	73	0
365	0	8		1,360		8			73	

1. "Cday" indicates "consecutive days of fresh water shortage."

2. "Lcday" indicates "longest period of consecutive days of fresh water shortage."

Table B9.1. The comparison of the longest period of consecutive days of water shortage from 12 simulations of Sugarloaf Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 15 ppt.

No.	Conditions	The longest consecutive days without fresh water
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 15 ppt	56 days
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	57 days
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	58 days
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	59 days
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	60 days
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	63 days
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 15 ppt	24 days
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	24 days
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	24 days
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	24 days
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	24 days
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	24 days

1. The deer number on Sugarloaf Key in 2000 is 6.

2. Please see Fig. A5.1 for the graph of the number of consecutive days of water shortage from the 2 selected simulations (No. 6 and 7) of Sugarloaf Key.

Table B9.2. The comparison of the longest period of consecutive days of water shortage from 12 simulations of Cudjoe Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 15 ppt.

No.	Conditions	The longest consecutive days without fresh water
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 15 ppt	83 days
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	83 days
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	83 days
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	87 days
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	87 days
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	87 days
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 15 ppt	24 days
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	24 days
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	25 days
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	30 days
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	30 days
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	31 days

1. The deer number on Cudjoe Key in 2000 is 6.

2. Please see Fig. A5.2 for the graph of the number of consecutive days of water shortage from the 2 selected simulations (No. 6 and 7) of Cudjoe Key.

Table B9.3. The comparison of the longest period of consecutive days of water shortage from 12 simulations of Knockemdown and Summerland Keys with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 15 ppt.

No.	Conditions	The longest consecutive days without fresh water
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 15 ppt	73 days
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	73 days
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	73 days
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	82 days
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	82 days
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	82 days
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 15 ppt	220 days
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	220 days
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	220 days
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	161 days
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	161 days
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	161 days

1. The deer number on Knockemdown and Summerland Keys in 2000 is 8.

2. Please see Fig. A5.3 for the graph of the number of consecutive days of water shortage from the 2 selected simulations (No. 1 and 9) of Knockemdown and Summerland Keys.

Table B9.4. The comparison of the longest period of consecutive days of water shortage from 12 simulations of Torches and Ramrod Keys with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 15 ppt.

No.	Conditions	The longest consecutive days without fresh water
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 15 ppt	59 days
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	59 days
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	66 days
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	66 days
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	67 days
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	73 days
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 15 ppt	26 days
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	25 days
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	25 days
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	25 days
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	25 days
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	25 days

1. The deer number on Torches and Ramrod Keys in 2000 is 94.

2. Please see Fig. A5.4 for the graph of the number of consecutive days of water shortage from the 2 selected simulations (No. 6 and 8) of Torches and Ramrod Keys.

Table B9.5. The comparison of the longest period of consecutive days of water shortage from 12 simulations of Big Pine Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 15 ppt.

No.	Conditions	The longest consecutive days without fresh water
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 15 ppt	54 days
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	59 days
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	70 days
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	59 days
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	65 days
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	77 days
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 15 ppt	18 days
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	18 days
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	18 days
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	24 days
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	24 days
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	24 days

1. The deer number on Big Pine Key in 2000 is 406.

2. Please see Fig. A5.5 for the graph of the number of consecutive days of water shortage from the 2 selected simulations (No. 6 and 7) of Big Pine Key.

Table B9.6. The comparison of the longest period of consecutive days of water shortage from 12 simulations of No Name Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 15 ppt.

No.	Conditions	The longest consecutive days without fresh water
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 15 ppt	94 days
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	95 days
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	97 days
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	102 days
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	102 days
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	108 days
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 15 ppt	196 days
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	197 days
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	109 days
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	195 days
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	195 days
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	111 days

1. The deer number on No Name Key in 2000 is 78.

2. Please see Fig. A5.6 for the graph of the number of consecutive days of water shortage from the 2 selected simulations (No. 1 and 8) of No Name Key.

Table B9.7. The comparison of the longest period of consecutive days of water shortage from 12 simulations of Little Pine Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 15 ppt.

No.	Conditions	The longest consecutive days without fresh water
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 15 ppt	30 days
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	30 days
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	30 days
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	15 days
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	15 days
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	18 days
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 15 ppt	9 days
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 15 ppt	9 days
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 15 ppt	12 days
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 15 ppt	14 days
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 15 ppt	14 days
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 15 ppt	14 days

1. The deer number on Little Pine Key in 2000 is 16.

2. Please see Fig. A5.7 for the graph of the number of consecutive days of water shortage from the 2 selected simulations (No. 3 and 7) of Little Pine Key.

Table B10.1. The comparison of deer days of water shortage and liters of water shortage from 12 simulations of Sugarloaf Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 330 ppt.

No.	Conditions	Deer days of water shortage	Liters of water shortage
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 330 ppt	510	362.10
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	517.17	734.38
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	549.74	3,277.53
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	**384**	**272.64**
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	396	562.32
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	438	2,611.36
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 330 ppt	486	345.06
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	504	715.68
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	573.74	3,420.64
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	420	298.20
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	438	621.96
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	498	2,969.08

1. The deer number on Sugarloaf Key in 2000 is 6.

Table B10.2. The comparison of deer days of water shortage and liters of water shortage from 12 simulations of Cudjoe Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 330 ppt.

No.	Conditions	Deer days of water shortage	Liters of water shortage
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 330 ppt	594	421.74
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	594	843.48
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	594	3,541.43
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	**498**	**353.58**
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	**498**	707.16
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	**498**	2,969.08
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 330 ppt	654	464.34
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	654	928.68
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	654	3,899.15
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	576	408.96
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	576	817.92
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	576	3,434.11

1. The deer number on Cudjoe Key in 2000 is 6.

Table B10.3. The comparison of deer days of water shortage and liters of water shortage from 12 simulations of Knockemdown and Summerland Keys with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 330 ppt.

No.	Conditions	Deer days of water shortage	Liters of water shortage
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 330 ppt	752	533.92
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	752	1,067.84
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	768	4,578.82
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	**576**	**408.96**
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	**576**	817.92
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	584	3,481.81
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 330 ppt	752	533.92
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	760	1,079.20
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	768	4,578.82
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	648	460.08
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	648	920.16
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	656	3,911.08

1. The deer number on Knockemdown and Summerland Keys in 2000 is 8.

Table B10.4. The comparison of deer days of water shortage and liters of water shortage from 12 simulations of Torches and Ramrod Keys with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 330 ppt.

No.	Conditions	Deer days of water shortage	Liters of water shortage
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 330 ppt	8,248.57	5,856.48
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	8,484.03	12,047.33
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	9,090.36	54,196.79
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	**6,486**	**4,605.06**
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	6,768	9,610.56
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	7,565.41	45,104.99
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 330 ppt	8,689.07	6,169.24
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	9,155.10	13,000.25
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	10,323.71	61,550
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	7,546.57	5,358.06
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	7,868.87	11,173.80
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	8,680.50	51,753.16

1. The deer number on Torches and Ramrod Keys in 2000 is 94.

Table B10.5. The comparison of deer days of water shortage and liters of water shortage from 12 simulations of Big Pine Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 330 ppt.

No.	Conditions	Deer days of water shortage	Liters of water shortage
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 330 ppt	34,504.40	24,498.12
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	36,540	51,886.80
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	42,225.57	251,749.03
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	**27,202**	**19,313.42**
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	29,261.37	41,551.14
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	35,256.31	210,198.31
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 330 ppt	34,789.70	24,700.69
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	37,965.39	53,910.86
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	46,143.39	275,107.14
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	30,392.63	21,578.77
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	32,667.37	46,387.67
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	38,230.98	227,933.27

1. The deer number on Big Pine Key in 2000 is 406.

Table B10.6. The comparison of deer days of water shortage and liters of water shortage from 12 simulations of No Name Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 330 ppt.

No.	Conditions	Deer days of water shortage	Liters of water shortage
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 330 ppt	8,301.13	5,893.80
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	8,479.57	12,040.98
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	8,864.23	52,848.58
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	**7,098**	**5,039.58**
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	7,254	10,300.68
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	7,656.02	45,645.20
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 330 ppt	9,906	7,033.26
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	10,201.32	14,485.88
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	10,596.93	63,178.96
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	8,346	5,925.66
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	8,524.86	12,105.30
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	8,887.47	52,987.14

1. The deer number on No Name Key in 2000 is 78.

Table B10.7. The comparison of deer days of water shortage and liters of water shortage from 12 simulations of Little Pine Key with different values of the 3 parameters (precipitation, evaporation and daily fresh water requirement) and the fixed upper salinity threshold for drinkable water, 330 ppt.

No.	Conditions	Deer days of water shortage	Liters of water shortage
1	P: Big Pine Key, E: Long Key, WR: 0.71 L, WThr: 330 ppt	640	454.40
2	P: Big Pine Key, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	672	954.24
3	P: Big Pine Key, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	784.04	4,674.47
4	P: Big Pine Key, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	**400**	**284**
5	P: Big Pine Key, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	416	590.72
6	P: Big Pine Key, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	496	2,957.15
7	**P: Key West**, E: Long Key, WR: 0.71 L, WThr: 330 ppt	560	397.60
8	P: Key West, E: Long Key, **WR: 1.42 L**, WThr: 330 ppt	592	840.64
9	P: Key West, E: Long Key, **WR: 5.962005 L**, WThr: 330 ppt	720	4,292.64
10	P: Key West, **E: Belle Glade EXP**, WR: 0.71 L, WThr: 330 ppt	432	306.72
11	P: Key West, E: Belle Glade EXP, **WR: 1.42 L**, WThr: 330 ppt	448	636.16
12	P: Key West, E: Belle Glade EXP, **WR: 5.962005 L**, WThr: 330 ppt	560	3,338.72

1. The deer number on Little Pine Key in 2000 is 16.

Table B11.1. The summary of the longest period of consecutive days of fresh water shortage from the simulations of Sugarloaf Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

SUGARLOAF KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L (48)	1.42 L (50)	5.962005 L (55)
14 ppt	57	58	59
14.5 ppt	57	57	58
15 ppt	56	57	58
15.5 ppt	56	56	58
16 ppt	56	56	58

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L (50)	1.42 L (52)	5.962005 L (59)
14 ppt	60	61	64
14.5 ppt	59	61	64
15 ppt	59	60	63
15.5 ppt	59	59	63
16 ppt	59	59	63

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L (**13**)	1.42 L (16)	5.962005 L (18)
14 ppt	**24**	**24**	**24**
14.5 ppt	**24**	**24**	**24**
15 ppt	**24**	**24**	**24**
15.5 ppt	**24**	**24**	**24**
16 ppt	**24**	**24**	**24**

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L (24)	1.42 L (24)	5.962005 L (24)
14 ppt	**24**	**24**	**24**
14.5 ppt	**24**	**24**	**24**
15 ppt	**24**	**24**	**24**
15.5 ppt	**24**	**24**	**24**
16 ppt	**24**	**24**	**24**

1. The number inside of the parentheses indicates the longest consecutive days without fresh water, with the fixed upper salinity threshold, 330 ppt.

Table B11.2. The summary of the longest period of consecutive days of fresh water shortage from the simulations of Cudjoe Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

CUDJOE KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L (62)	 1.42 L (62)	 5.962005 L (62)
14 ppt	83	83	83
14.5 ppt	83	83	83
15 ppt	83	83	83
15.5 ppt	83	83	83
16 ppt	83	83	83

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L (69)	 1.42 L (69)	 5.962005 L (69)
14 ppt	87	87	88
14.5 ppt	87	87	87
15 ppt	87	87	87
15.5 ppt	87	87	87
16 ppt	87	87	87

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L (**18**)	 1.42 L (**18**)	 5.962005 L (**18**)
14 ppt	**24**	**24**	25
14.5 ppt	**24**	**24**	25
15 ppt	**24**	**24**	25
15.5 ppt	**24**	**24**	25
16 ppt	**24**	**24**	25

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L (24)	 1.42 L (24)	 5.962005 L (24)
14 ppt	31	31	31
14.5 ppt	30	31	31
15 ppt	30	30	31
15.5 ppt	30	30	31
16 ppt	30	30	31

1. The number inside of the parentheses indicates the longest consecutive days without fresh water, with the fixed upper salinity threshold, 330 ppt.

Table B11.3. The summary of the longest period of consecutive days of fresh water shortage from the simulations of Knockemdown/Summerland Keys with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

KNOCKEMDOWN AND SUMMERLAND KEYS

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L (55)	1.42 L (55)	5.962005 L (56)
14 ppt	**73**	**73**	74
14.5 ppt	**73**	**73**	**73**
15 ppt	**73**	**73**	**73**
15.5 ppt	**73**	**73**	**73**
16 ppt	**73**	**73**	**73**

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L (57)	1.42 L (57)	5.962005 L (58)
14 ppt	84	84	83
14.5 ppt	82	82	83
15 ppt	82	82	82
15.5 ppt	81	81	82
16 ppt	81	81	81

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L (**24**)	1.42 L (**24**)	5.962005 L (25)
14 ppt	220	220	221
14.5 ppt	220	220	220
15 ppt	220	220	220
15.5 ppt	219	219	219
16 ppt	219	219	219

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L (**24**)	1.42 L (**24**)	5.962005 L (**24**)
14 ppt	163	163	163
14.5 ppt	162	162	163
15 ppt	161	161	161
15.5 ppt	161	161	161
16 ppt	160	160	160

1. The number inside of the parentheses indicates the longest consecutive days without fresh water, with the fixed upper salinity threshold, 330 ppt.

Table B11.4. The summary of the longest period of consecutive days of fresh water shortage from the simulations of Torches/Ramrod Keys with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

TORCHES AND RAMROD KEYS

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L (50)	1.42 L (53)	5.962005 L (59)
14 ppt	59	59	66
14.5 ppt	59	59	66
15 ppt	59	59	66
15.5 ppt	58	59	65
16 ppt	58	59	65

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L (55)	1.42 L (58)	5.962005 L (66)
14 ppt	66	67	73
14.5 ppt	66	67	73
15 ppt	66	67	73
15.5 ppt	66	67	73
16 ppt	66	67	73

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT 0.71 L (**18**)	1.42 L (**18**)	5.962005 L (**18**)
14 ppt	26	25	25
14.5 ppt	26	25	25
15 ppt	26	25	25
15.5 ppt	25	25	25
16 ppt	25	25	25

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT 0.71 L (24)	1.42 L (24)	5.962005 L (24)
14 ppt	25	25	25
14.5 ppt	25	25	25
15 ppt	25	25	25
15.5 ppt	25	**24**	25
16 ppt	25	**24**	25

1. The number inside of the parentheses indicates the longest consecutive days without fresh water, with the fixed upper salinity threshold, 330 ppt.

Table B11.5. The summary of the longest period of consecutive days of fresh water shortage from the simulations of Big Pine Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

BIG PINE KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L (48)	1.42 L (53)	5.962005 L (64)
14 ppt	54	60	71
14.5 ppt	54	60	71
15 ppt	54	59	70
15.5 ppt	54	59	70
16 ppt	54	59	70

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L (52)	1.42 L (58)	5.962005 L (69)
14 ppt	59	65	78
14.5 ppt	59	65	77
15 ppt	59	65	77
15.5 ppt	59	65	77
16 ppt	58	65	77

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L (**18**)	1.42 L (**18**)	5.962005 L (**18**)
14 ppt	**18**	**18**	**18**
14.5 ppt	**18**	**18**	**18**
15 ppt	**18**	**18**	**18**
15.5 ppt	**18**	**18**	**18**
16 ppt	**18**	**18**	**18**

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L (24)	1.42 L (24)	5.962005 L (24)
14 ppt	24	24	24
14.5 ppt	24	24	24
15 ppt	24	24	24
15.5 ppt	24	24	24
16 ppt	24	24	24

1. The number inside of the parentheses indicates the longest consecutive days without fresh water, with the fixed upper salinity threshold, 330 ppt.

Table B11.6. The summary of the longest period of consecutive days of fresh water shortage from the simulations of No Name Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

NO NAME KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L (68)	1.42 L (70)	5.962005 L (75)
14 ppt	95	95	98
14.5 ppt	94	95	97
15 ppt	94	95	97
15.5 ppt	94	94	96
16 ppt	**93**	94	96

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L (76)	1.42 L (78)	5.962005 L (84)
14 ppt	102	103	108
14.5 ppt	102	102	108
15 ppt	102	102	108
15.5 ppt	101	102	105
16 ppt	100	101	106

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L (**24**)	1.42 L (**24**)	5.962005 L (25)
14 ppt	197	197	110
14.5 ppt	197	197	110
15 ppt	196	197	109
15.5 ppt	194	194	109
16 ppt	194	193	109

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L (**24**)	1.42 L (**24**)	5.962005 L (25)
14 ppt	197	196	184
14.5 ppt	195	195	111
15 ppt	195	195	111
15.5 ppt	195	195	110
16 ppt	194	182	110

1. The number inside of the parentheses indicates the longest consecutive days without fresh water, with the fixed upper salinity threshold, 330 ppt.

Table B11.7. The summary of the longest period of consecutive days of fresh water shortage from the simulations of Little Pine Key with different combinations of the 4 parameters (precipitation, evaporation, daily fresh water requirement and the upper salinity threshold for drinkable water).

LITTLE PINE KEY

EVAPORATION

PRECIPITATION

1. P: Big Pine Key, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L (13)	1.42 L (13)	5.962005 L (13)
14 ppt	30	30	30
14.5 ppt	30	30	30
15 ppt	30	30	30
15.5 ppt	30	30	30
16 ppt	30	30	30

2. P: Big Pine Key, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L (14)	1.42 L (14)	5.962005 L (17)
14 ppt	15	15	18
14.5 ppt	15	15	18
15 ppt	15	15	18
15.5 ppt	14	14	18
16 ppt	14	14	18

3. P: Key West, E: Long Key

Salinity threshold	WATER REQUIREMENT		
	0.71 L (**9**)	1.42 L (**9**)	5.962005 L (10)
14 ppt	**9**	**9**	12
14.5 ppt	**9**	**9**	12
15 ppt	**9**	**9**	12
15.5 ppt	**9**	**9**	12
16 ppt	**9**	**9**	12

4. P: Key West, E: Belle Glade EXP

Salinity threshold	WATER REQUIREMENT		
	0.71 L (12)	1.42 L (13)	5.962005 L (13)
14 ppt	14	14	14
14.5 ppt	14	14	14
15 ppt	14	14	14
15.5 ppt	14	14	14
16 ppt	14	14	14

1. The number inside of the parentheses indicates the longest consecutive days without fresh water, with the fixed upper salinity threshold, 330 ppt.

Table B12.1.1. The comparison of the deer days of water shortage, the liters of water shortage, the longest consecutive days without fresh water among 7 island-complexes within the Key Deer range under the most favorable conditions.

Island-complexes	Deer days of water shortage	Liters of water shortage	The longest consecutive days without fresh water
Sugarloaf	444	315	24
Cudjoe	606	430	24
Knockemdown/Summerland	1,016	727	73
Torches/Ramrod	7,802	5,539	24
Big Pine	29,584	21,004	18
No Name	10,953	7,777	93
Little Pine	432	307	9

1. See Fig. A5 to observe the patterns of consecutive days of water shortage from the 2 selected simulations under favorable and unfavorable conditions per island.

2. For the descriptions of the most favorable conditions per island, see Table B12.1.2.

Table B12.1.2. The 4 parameter combinations (precipitation, evaporation, daily fresh water requirement, the upper salinity threshold for drinking water) used to determine the most favorable conditions for deer days of water shortage, liters of water shortage and the longest consecutive days without fresh water on each island. (Please note that several parameter combinations may be equally favorable in terms of each of the three indexes.)

1. Sugarloaf Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 14.5 ppt,15 ppt, 15.5 ppt, 16 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 1.42 L, WThr: 15.5 ppt, 16 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Long Key, WR: 5.962005 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

2. Cudjoe Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 1.42 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 5.962005 L, WThr: 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

3. Knockemdown and Summerland Keys

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 1.42 L, WThr: 16 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 5.962005 L, WThr: 16 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 16 ppt

Table B12.1.2. (Continued)

3. Knockemdown and Summerland Keys

(3) The longest consecutive days without fresh water

- P: Big Pine, E: Long Key, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Big Pine, E: Long Key, WR: 1.42 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Big Pine, E: Long Key, WR: 5.962005 L, WThr: 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

4. Torches and Ramrod Keys

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: 15.5 ppt, 16 ppt

5. Big Pine Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 16 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 16 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Long Key, WR: 5.962005 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

6. No Name Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 16 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 16 ppt

Table B12.1.2. (Continued)

6. No Name Key

(3) The longest consecutive days without fresh water

- P: Big Pine, E: Long Key, WR: 0.71 L, WThr: 16 ppt

7. Little Pine Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 15.5 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 16 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 15.5 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 16 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 14 ppt, 14.5 ppt, 15 ppt, 15.5 ppt, 16 ppt

Table B12.2.1. The comparison of the deer days of water shortage, the liters of water shortage, the longest consecutive days without fresh water among 7 island-complexes within the Key Deer range under the most favorable conditions.

Island-complexes	Deer days of water shortage	Liters of water shortage	The longest consecutive days without fresh water
Sugarloaf	384	273	13
Cudjoe	498	354	18
Knockemdown/Summerland	576	409	24
Torches/Ramrod	6,486	4,605	18
Big Pine	27,202	19,313	18
No Name	7,098	5,040	24
Little Pine	400	284	9

1. **The upper salinity threshold for drinkable water is set at 330 ppt.**
2. For the descriptions of the most favorable conditions per island, see Table B12.2.2.

Table B12.2.2. The 4 parameter combinations (precipitation, evaporation, daily fresh water requirement, the upper salinity threshold for drinking water) used to determine the most favorable conditions for deer days of water shortage, liters of water shortage and the longest consecutive days without fresh water on each island. (Please note that several parameter combinations may be equally favorable in terms of each of the three indexes.)

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1. Sugarloaf Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 330 ppt

2. Cudjoe Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 1.42 L, WThr: 330 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 5.962005 L, WThr: 330 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 5.962005 L, WThr: 330 ppt

3. Knockemdown and Summerland Keys

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt
- P: Big Pine, E: Belle Glade EXP, WR: 1.42 L, WThr: 330 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 330 ppt

Table B12.2.2. (Continued)

3. Knockemdown and Summerland Keys

(3) The longest consecutive days without fresh water

- P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt
- P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: 330 ppt
- P: Key West, E: Belle Glade EXP, WR: 5.962005 L, WThr: 330 ppt

4. Torches and Ramrod Keys

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 5.962005 L, WThr: 330 ppt

5. Big Pine Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 5.962005 L, WThr: 330 ppt

6. No Name Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

Table B12.2.2. (Continued)

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6. No Name Key

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 330 ppt
- P: Key West, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt
- P: Key West, E: Belle Glade EXP, WR: 1.42 L, WThr: 330 ppt

7. Little Pine Key

(1) Deer days of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(2) Liters of water shortage

- P: Big Pine, E: Belle Glade EXP, WR: 0.71 L, WThr: 330 ppt

(3) The longest consecutive days without fresh water

- P: Key West, E: Long Key, WR: 0.71 L, WThr: 330 ppt
- P: Key West, E: Long Key, WR: 1.42 L, WThr: 330 ppt

Table B12.3. The comparison of deer days of water shortage, liters of water shortage, the longest consecutive days without fresh water among 7 island-complexes within the Key Deer range with 15 ppt and 330 ppt of the upper salinity threshold under the most favorable combination of parameters.

Island-complexes	Deer days of water shortage	Liters of water shortage	The longest consecutive days without fresh water
Sugarloaf	444 (384)	315 (273)	24 (13)
Cudjoe	606 (498)	430 (354)	24 (18)
Knockemdown/Summerland	1,016 (576)	727 (409)	73 (24)
Torches/Ramrod	7,802 (6,486)	5,539 (4,605)	24 (18)
Big Pine	29,584 (27,202)	21,004 (19,313)	18 (18)
No Name	10,953 (7,098)	7,777 (5,040)	93 (24)
Little Pine	432 (400)	307 (284)	9 (9)

1. The number inside of the parentheses indicates the deer days of water shortage, the liters of water shortage, the longest consecutive days without fresh water, when the upper salinity threshold for drinkable water is set at 330 ppt, instead of 15 ppt.

2. For the descriptions of the most favorable conditions per island, see Table B12.1.2 and Table B12.2.2.

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