

REWHC



Raytheon Employees
Wildlife Habitat Committee

Wild On-Line:

An Internet-Based Approach For Focusing Employee and Community Involvement

William Saslow

Raytheon Naval & Maritime Integrated Systems

Portsmouth, Rhode Island



Contents

- **Why Build a Website?**
 - Communications Challenge
- **REWHC Website Case Study**
 - Organizing Project Information
 - Survey Elements
 - Planning Elements
 - Projects Elements
 - Outreach Elements
 - Website Development Tools
 - Perl Script Resources
- **Summary**

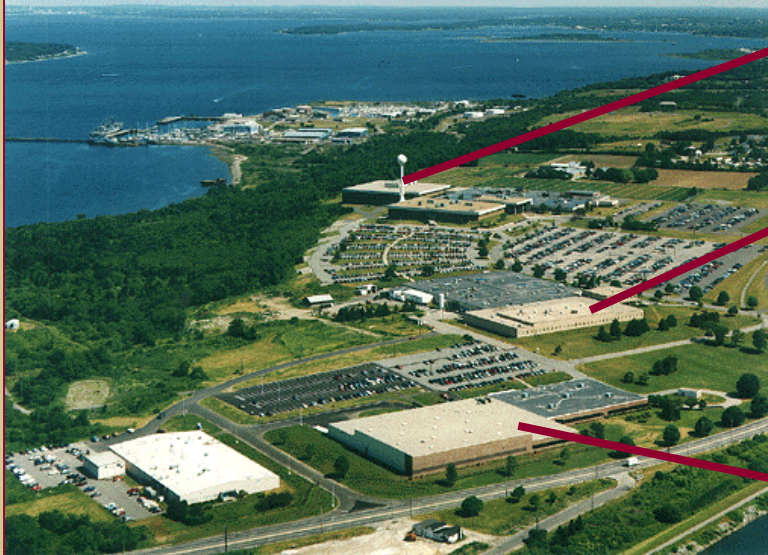
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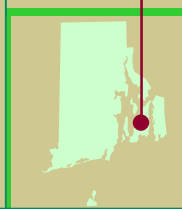
Communications Challenge

Raytheon Naval & Maritime Integrated Systems



Portsmouth, Rhode Island, 3 Main Buildings,
1 Storage Building, 175 Acres, 750,000 sq ft.,
3 miles of walking trails.

Rhode
Island



Building 1



Building 2



Building 3



Local Organizations



Local Naturalists



Naturalists



Naturalists

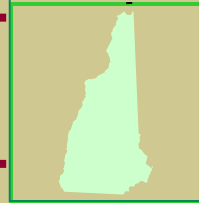


Naturalists

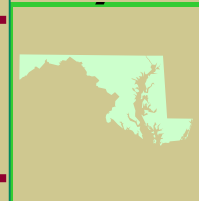


Naturalists

New Hampshire



Maryland



WEB Server
REWHC.ORG

INTERNET

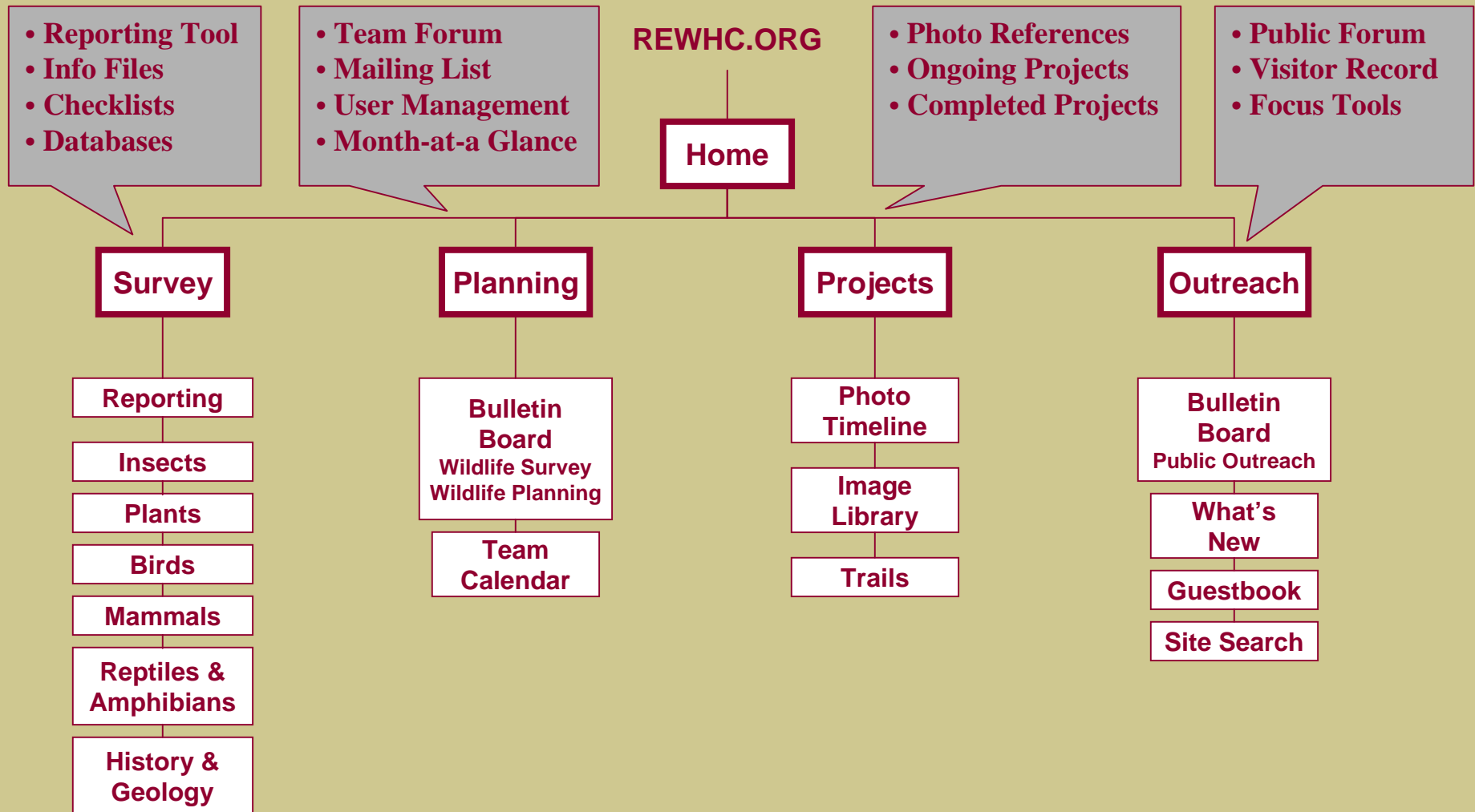
The Internet is the Common Link For Us To Share Information and Process

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Organizing Project Information



Project Information Is Well Organized and Accessible to All



Survey: Process Description

Obtain a Checklist



Downloaded From the Website
In PDF Format

- 100 Most Common Species
- Zones, Methods, and Entry Form

Go Surveying



Walk the Trails By Zone

- Duration and Conditions
- Identify and Record Surveyed Species

Enter Data



Enter the Data Online

- Species Tallies
- In Building Lobbies

- Login to Website
- Enter Recorded Survey Data

- Wildlife Balances
- Diversity Fluctuations

- By Species, Type, and Filters
- Onscreen and Portable (PDF)

Post Reports



Employee Involvement

Monitor Progress



Planning and Evaluation

Generate Reports



Select and Run Reports

Survey Process is Accessible to all Employees and Team Members

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Survey: Report Selection

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Portsmouth, RI Location

[\[Survey\]](#)

[\[Planning\]](#)

[\[Projects\]](#)

[\[Outreach\]](#)

Report Selection

Select a Report

Select a Species

bird

Select a Report Type

Abundance

Select a Filter

☒ Show All ☐ By Date

1 1 1999 Start

1 1 2010 End

Run Report

Reset Form

Actual Website Screen

Keep Reports Current and Accessible

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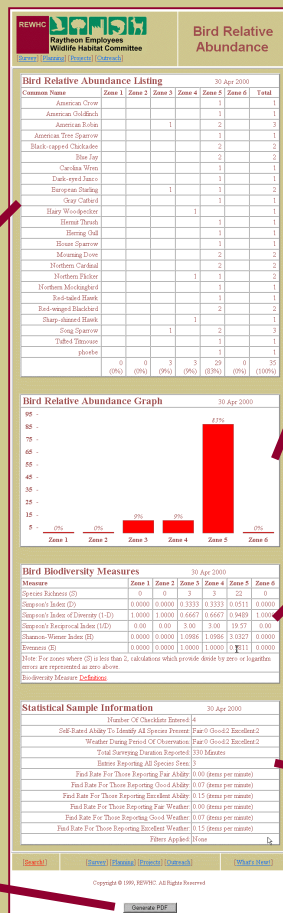


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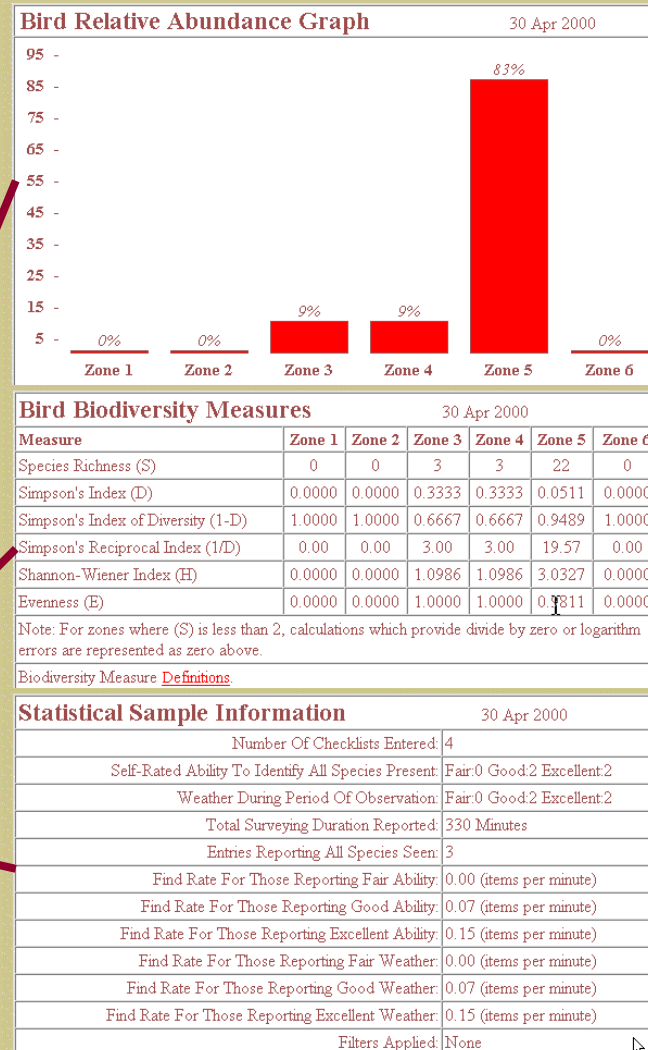
Survey: Online Reporting

Bird Relative Abundance Listing 30 Apr 2000							
Common Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Total
American Crow					1		1
American Goldfinch					1		1
American Robin			1		2		3
American Tree Sparrow					1		1
Black-capped Chickadee					2		2
Blue Jay					2		2
Carolina Wren					1		1
Dark-eyed Junco					1		1
European Starling			1		1		2
Gray Catbird					1		1
Hairy Woodpecker				1			1
Hermit Thrush					1		1
Herring Gull					1		1
House Sparrow					1		1
Mourning Dove					2		2
Northern Cardinal					2		2
Northern Flicker				1	1		2
Northern Mockingbird					1		1
Red-tailed Hawk					1		1
Red-winged Blackbird					2		2
Sharp-shinned Hawk				1			1
Song Sparrow			1		2		3
Tufted Titmouse					1		1
phoebe					1		1
	0 (0%)	0 (0%)	3 (9%)	3 (9%)	29 (83%)	0 (0%)	35 (100%)

Generate PDF



Actual Website Screen



Provide Both Graphical and Textual Information Relevant For Planning and Evaluation



Survey: Abundance Detail

Bird Relative Abundance Listing

23 Oct 2000

Common Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Total
American Crow	1	1			13	1	16
American Goldfinch					6		6
American Redstart					1		1
American Robin		2	1		13	1	17
American Tree Sparrow					2		2
Baltimore Oriole		2			1		3
Barn Swallow	2				3		5
Black-capped Chickadee	1	2			8		11
Blue Gray Gnatcatcher		1			1		2
Blue Jay	1				28		29
Brown Thrasher					1		1
Brown-headed Cowbird						50	50
~							
Yellow Warbler					2		2
Yellow-rumped Warbler					1		1
phoebe					1		1
	20 (4%)	19 (4%)	4 (1%)	3 (1%)	336 (70%)	99 (21%)	481 (100%)

Composite of Actual Website Screen

Provide Textual Information Relevant For Planning and Evaluation

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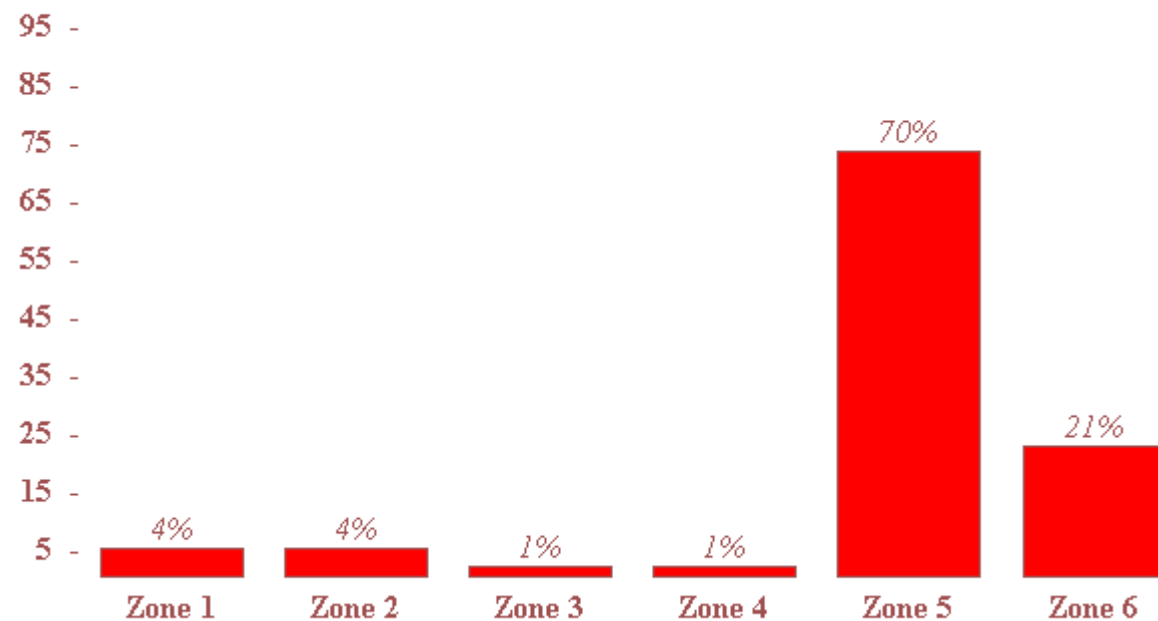


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Survey: Graph Detail

Bird Relative Abundance Graph

23 Oct 2000



Actual Website Screen

Provide Both Graphical and Textual Information Relevant For Planning and Evaluation



Survey: Biodiversity Detail

Bird Biodiversity Measures

23 Oct 2000

Measure	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Species Richness (S)	11	10	4	3	48	10
Simpson's Index (D)	0.2000	0.1413	0.2500	0.3333	0.1648	0.4274
Simpson's Index of Diversity (1-D)	0.8000	0.8587	0.7500	0.6667	0.8352	0.5726
Simpson's Reciprocal Index (1/D)	5.00	7.08	4.00	3.00	6.07	2.34
Shannon-Wiener Index (H)	2.0253	2.1285	1.3863	1.0986	2.6809	1.0814
Evenness (E)	0.8446	0.9244	1.0000	1.0000	0.6925	0.4696

Note: For zones where (S) is less than 2, calculations which provide divide by zero or logarithm errors are represented as zero above.

Biodiversity Measure [Definitions](#).

Actual Website Screen

Provide Quantifiable Measures Of Biodiversity



Survey: Portable Reporting

Generate PDF

Bird Relative Abundance

Common Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Total
American Crow					1		1
American Goldfinch					1		1
American Robin			1		2		3
American Tree Sparrow					1		1
Black-capped Chickadee					2		2
Blue Jay					2		2
Carolina Wren					1		1
Dark-eyed Junco					1		1
European Starling			1		1		2
Gray Catbird					1		1
Hairy Woodpecker				1			1
Hermit Thrush					1		1
Herring Gull					1		1
House Sparrow					1		1
Horned Lark					2		2
Northern Cardinal					2		2
Northern Flicker				1	1		2
Northern Mockingbird					1		1
Red-tailed Hawk					1		1
Red-winged Blackbird					2		2
Sharp-shinned Hawk					1		1
Song Sparrow			1		2		3
Tufted Titmouse					1		1
Shrikes					1		1
TOTALS	0	0	3	3	29	0	35
PERCENTAGES	0	0	9	9	83	0	100

Page 1 / Sun Apr 30 03:31:34 2000

Actual Website Screen

- ASCII Tables
- Multi-Page
- Page Numbered

Bird Relative Abundance

Biodiversity Measure	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Species Richness (S)	0	0	3	3	22	0
Simpson's Index (D)	0.0000	0.0000	0.3333	0.3333	0.0511	0.0000
Simpson's Index of Diversity (1/D)	1.0000	1.0000	0.6667	0.6667	0.9489	1.0000
Simpson's Reciprocal Index (1/D)	0.00	0.00	3.00	3.00	19.57	0.00
Shannon-Wiener Index (H)	0.0000	0.0000	1.0384	1.0384	3.0327	0.0000
Evenness (E)	0.0000	0.0000	1.0000	1.0000	0.9811	0.0000

Note: For zones where (S) is less than 2, calculations which provide divide by zero or logarithmic errors are represented as zero above.

Page 2 / Sun Apr 30 03:31:34 2000

Actual Website Screen

- Print Monthly Reports for Records
- Post Progress in Building Lobbies

Provide Reports Which Visitors Can Print, Save, or E-mail

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Planning: Bulletin Board E-Mail



[\[Survey\]](#) [\[Planning\]](#) [\[Projects\]](#) [\[Outreach\]](#)

Welcome to the REWHC Discussion Forum

- **Wildlife Survey** June 26 - 01:06 pm
The Wildlife Survey conversations are intended for surveyors to share information on wildlife and survey techniques with other surveyors and local organizations.
- **Wildlife Planning** July 7 - 07:46 am
The Wildlife Planning conversations are intended for planners to share planning prospects and provide a means of input from the team and local organizations.
- **Public Outreach** November 21 - 10:12 am
The Public Outreach conversations are intended for the public to collaborate with the REWHC team and local organizations.

This forum is primarily intended as a tool for REWHC Team members and local organizations to exchange ideas. The general public is invited to sign our [guestbook](#) and add to the Public Outreach forum topics which do not require a password. If you are a REWHC member or local organization and require a password to add to the other Forums, please send me an e-mail with your full name and reason for access at webmaster@rewhc.org.

[Back to the REWHC Home Page](#)

Actual Website Screen

- Survey, Planning, And Outreach
- Normal View, Tree View
- New: Last Day, Last Week
- Password-Protected Areas
- Public Areas
- User Administration



Mailing List

Username	Password	E-Mail
_____	_____	_____
_____	_____	_____
_____	_____	_____

- E-Mail Notification of Postings
- Username/Password Synch

Document Team Progress And Keep Team Engaged In Events

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Planning: Team Calendar

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Programs and Events For April 2000

Click on any date to view details for that day.

April 2000 Go

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						<u>1</u> April Fool's Day
<u>2</u> Guided Bird Walk With The Norman Bird Sanctuary	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>
<u>16</u>	<u>17</u>				<u>21</u>	<u>22</u> Earth Day Celebration
<u>23</u>	<u>24</u>				<u>28</u>	<u>29</u> Lawton Valley Walk

April 2, 2000 - Netscape

April 2000

April 2 2000

- **Guided Bird Walk With The Norman Bird Sanctuary :**
Veronica Hinds and a few other guests from the Norman Bird Sanctuary will be joining us for an early morning bird walk.

Ms. Hinds is the resident wildlife expert at Norman and is one of our REWHC teammates.
Why not download a bird checklist from our site and bring several copies on the walk.
We will leave from the Building 1 Lobby at 8:00 AM sharp.
Size of the group is limited.
Please call (401) 842-3461 for further information.

Close

Actual Website Screen

Actual Website Screen

- Month at-a-Glance
- Activity Pop-Ups

- Pop-Up Window
- Details of Event
- Point of Contact

Focus Team Attention on Key Calendar Events

REWHC

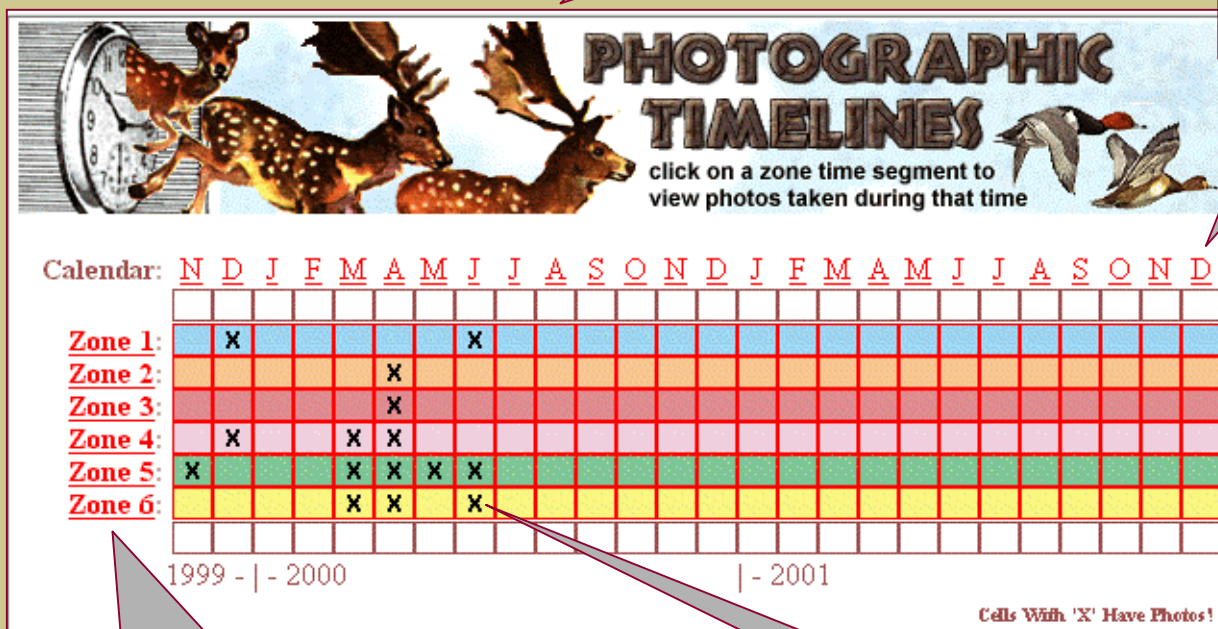


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Projects: Photo Timeline

• Photo Documentation of Progress

• Links To Calendar



Actual Website Screen

• Links To Zone Descriptions

• Links To Photos

Show Seasonal Variance Using Images

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Projects: Image Library

KEYWORD SEARCH

- All Categories

Categories 135 images in 6 categories!

[Top](#)

- [Zone1 Meadow Fields](#) (8) **NEW**
- [Zone2 Eastern Woodland](#) (3)
- [Zone3 Manicured Lawns](#) (4)
- [Zone4 Lawton Valley](#) (44)
- [Zone5 Western Woodland](#) (43) **NEW**
- [Zone6 Manicured Lawns](#) (33) **NEW**

ImageFolio

Thanks to Greg Raumn of BizDesign, Inc. for his support of nonprofit and educational endeavors. **CATEGORIES** - Zone1 Meadow Fields

Actual
Website
Screens

Zone4 Lawton Valley (zone4_017) Displaying image 17 of 44 Manual Slideshow Mode

[Top](#) > [Zone4 Lawton Valley](#) > zone4_017

Lawton Falls c.2000
© 2000, W. Saslow
4/29/00
Looking much like it did in the 1890s.

BACKWARD [Zone3 Manicured Lawns](#) [Return to Thumbnail View](#) FORWARD [Zone5 Western Woodland](#)

ImageFolio

KEYWORD SEARCH

- Zone4 Lawton Valley

Zone4 Lawton Valley 44 images found on 6 pages. Displaying 8 images per page.

[Top](#) > [Zone4 Lawton Valley](#) > Page 3

zone4_017 Lawton Falls c.2000 © 2000, W. Saslow	zone4_018 Mushroom Tree © 2000, W. Saslow	zone4_019 Lawton Falls Closeup © 2000, W. Saslow	zone4_020 Lawton Brook © 2000, W. Saslow
zone4_021 Lawton Brook Running © 2000, W. Saslow	zone4_022 Skunk Cabbage © 2000, W. Saslow	zone4_023 Moss and Ferns © 2000, W. Saslow	zone4_024 Wildflower © 2000, W. Saslow

BACKWARD [Zone3 Manicured Lawns](#) [[<<](#)] [Prev](#) [1](#) [2](#) (3) [4](#) [5](#) [6](#) [Next](#) [[>>](#)]

FORWARD [Zone5 Western Woodland](#)

ImageFolio

Thanks to Greg Raumn of BizDesign, Inc. for his support of nonprofit and educational endeavors. **CATEGORIES** - Zone1 Meadow Fields

Actual Website Screen

Provide Well-Indexed Image Library To Document Progress



Outreach: What's New

Headlines:

[Town Farm History Added](#) - Monday, May 29, 2000
[New, Powerful, Image Library for REWHC](#) - Sunday, May 7, 2000
[Lawton Valley History Added](#) - Saturday, April 29, 2000
[Plant Checklist, Database, and Reporting Added!](#) - Sunday, April 9, 2000
[New Pictures Added For Lawton Valley](#) - Monday, April 3, 2000
[Insect Survey Database and Reporting Added](#) - Monday, April 3, 2000
[Reptile and Amphibian Database and Reporting Added](#) - Saturday, February 19, 2000
[Bluebirds For Aquidneck](#) - Wednesday, February 16, 2000
[Updated Outreach Page](#) - Wednesday, February 16, 2000
[Mammal Abundance and Diversity Reporting](#) - Friday, December 31, 1999
[Western Woodland Pictures Added](#) - Friday, December 31, 1999
[Photographic Timelines Added](#) - Friday, December 31, 1999
[Bird Relative Diversity Reporting](#) - Friday, December 31, 1999
[Meadow Fields Pictures Added](#) - Sunday, December 26, 1999
[Bird Relative Abundance Reporting](#) - Sunday, December 26, 1999
[Lawton Valley Pictures Added](#) - Tuesday, December 21, 1999

News:

Town Farm History Added Posted Monday, May 29, 2000 by [admin](#)
In the Western Woodland, Zone 5, the Town Farm once stood from about 1833 to 1926. The town of Portsmouth Poor House, the Town Farm has a colorful past. It was located near where the waste treatment plant now stands. Check out some interesting period documents [here](#).

New, Powerful, Image Library for REWHC Posted Sunday, May 7, 2000 by [admin](#)
Managing thumbnails and images was becoming a real chore and images were not easily accessible. With the addition of ImageFolio for our site, this is no longer a problem. Photos now have keywords and can be searched and viewed in a thumbnail viewer. Manual or automatic slideshows are available through this function as well. Check it out at [this](#) link. Since all images are keyworded for month/year and zone, the timeline function has been updated to use queries. This will assure that the latest images are accessible.

• Focus On New Features

Actual Website Screen

Inform Team Members Of New Features



Website Development Tools

- **Web Page Authoring and Editing:**
 - Allaire Homesite 3.0.1
- **PDF Downloadable File Generation:**
 - Adobe Acrobat Distiller 3.0.1
- **Graphics Generation:**
 - Adobe Photoshop 4, Adobe Illustrator 7.0
- **Site File Transfer:**
 - Aerosoft Netload 3.8f
- **Server Maintenance:**
 - Microsoft Telnet 1.0



Perl Script Resources

ELEMENT	DESCRIPTION	SOURCE	USAGE RESTRICTIONS
Reporting	Multi-Species Abundance and Diversity Reporting	REWHC	Free of charge for WHC, personal, academic, government or non-profit use.
Databases	DBMan Flat-File database system for species survey entry.	Gossamer Threads Inc.	Free of charge for personal, academic, government or non-profit use.
Bulletin Board	Discussion Forum with integrated mailing list	DiscusWare	Freeware
Calendar	Month-at-a-Glance Calendar	Matt Kruse	Freeware
Image Library	ImageFolio 2.1 photo database with integrated search function	BizDesign	\$189 List (Donated to REWHC)
What's New	NewsPro 3.7 News system configured for what's new use.	NewsPro	Freeware
Guestbook	Guestbook 2.0 visitor guestbook.	Selena Sol	Freeware
Search	Perlfect Search 3.03 website search engine	PerlfectSolutions	Freeware
Counter	SSI Page Counter	George Burgyan	Freeware
PDF Reporter	PDFever Text to PDF Generator	Perl Script Studio	\$?? List (Donated to REWHC)
Global Password	Distributes passwords from Bulletin Board to databases	REWHC	Free of charge for WHC, personal, academic, government or non-profit use.

Many Interactive Scripts Are Available Either Free or at Nominal Cost



In Summary

- **The Internet can bring a team together:**
 - All of our team members have e-mail, can browse websites, and can display and print PDF documents.
 - **A Website can provide centralized process definition, progress reporting, and data collection:**
 - Descriptions, Checklists, on-line databases, and reporting,
 - Team calendar, bulletin board, and image library.
- **Interactive Websites can enhance productivity:**
 - Downloadable documents,
 - Real-time reporting,
 - Searches on site and photos by keyword.