

# SEA GRANT ON THE WEB

## A Guidebook for World Wide Web Site Development

The World Wide Web is one of the major technological phenomena of the 1990s. By means of the Web, anyone with a computer and a modem can have almost instant access to virtual libraries of information on essentially any topic. This communication technology has developed at such a rapid pace that suddenly we have at our fingertips a medium that is at once global, interactive, dynamic, cross-platform, distributed and graphical. Not only does it offer our audiences unprecedented access to Sea Grant information, but also it allows Sea Grant programs to maintain their individual differences even while strengthening the national network identity.

Many Sea Grant programs have been quick to realize the extraordinary potential of this powerful new communication and information tool. With little coordination or prior discussion, these programs established a creative and formidable network presence on the Web. However, the contents and appearance of our earliest Web offerings have varied considerably in quality and depth. More importantly, the representation of programs was patchy and haphazard.

For this reason a group of communicators, with representation from the National Sea Grant Office, program directors, marine advisory services and marine educators, met in Seattle in September, 1995. This guidebook is a result of that meeting. The guidebook contains the task group's recommendations for Web site content, style and marketing, along with a section on network resources and training, and a bibliography. By linking to existing information and making use of network resources, the Sea Grant network will benefit greatly from coordination of its Web efforts. The intent is not to impose a rigid and constraining set of criteria or regulations for Web page development, but to help give Sea Grant a presence there that is unified and still many-faceted.

## Content of Your Web Site

This section lists recommendations for specific things that each program should include, if appropriate to the local program, when constructing a Web site. These recommendations are aimed at establishing a degree of continuity across the network which will help us present Sea Grant as a unified national program.

### Phase I: Minimum Features

- **Location.** Your program's street address, mailing address, phone and fax numbers.
- **National Logo.** The new national logo (if adopted by your program), should be prominently displayed on your home page. Beyond that, layout of home page/welcome page is up to each program.
- **Identifying Element.** A thumbnail of the logo you choose should appear on all succeeding pages. This small logo should link back to your home page so people can easily access it regardless of where they enter your Web site.
- **Description of National Sea Grant College Program.** "Sea Grant is a partnership of academia, government, and industry focusing on coastal and marine resources. It operates through a university-based network to meet environmental and economic needs."
- **Description of the National Sea Grant College Program mission.** "Sea Grant conducts research, education, and outreach to use and conserve coastal and marine resources for a sustainable economy and environment."

- Link to the national “What is Sea Grant?” page. (<http://www.masg.umd.edu/NSGO/WhatIsSeaGrant.html>)
- Link to Pell Library/Sea Grant Depository data base. (Not yet available. We’ll keep you posted.)
- Link to National Sea Grant map and list of all 29 Sea Grant programs. (<http://www.mdsg.umd.edu/NSGO/NationalSeaGrant.html>)
- Links to a regional page and/or nearby Sea Grant programs.
- Link to National Media Center. (<http://www.mdsg.umd.edu:80/seagrantmediacenter/>)
- Downloadable text of one-page fact sheet that describes your overall program effort. (See the Content section for downloading instructions.)
- Name and email address of person who maintains your Web site, with date of most recent changes.

## **Phase II: Highly Recommended Features**

- Directory of Marine Advisory/Extension staff, preferably with contact information and descriptions of each person’s specialty(ies).
- List of your program’s publications and other information products with descriptions and ordering instructions.
- Project summaries and directory of investigators.
- List of “significant others,” e.g. advisory board members, administrators, communicators.
- Information on how to apply for funding, eligibility, request for proposals timetable.
- Downloadable budget forms for omnibus proposal writing.
- Links to pertinent colleges, schools, departments at your institution, including student recruitment resources.
- Links to or email addresses of news groups, listservs, mail groups, bulletin boards related to your program’s interests.

## **Phase III: Other Suggestions**

- “Mini home page” for each advisory/extension agent and specialist.
- Calendar of local and regional events.
- Links to Web sites of Cooperative Extension Service and other government agencies, conservation groups, education associations, industry associations, and other entities of interest to your constituents.
- List of frequently asked questions and answers about your program.
- List of frequently asked questions about your marine or Great Lakes resources.
- Organizational charts.
- Downloadable publications such as magazines, newsletters, news and feature stories, radio scripts, etc.
- Downloadable classroom activities, drawings, and photos for educators and students.
- On-line order forms for information products.
- Links to marine careers guide and to Marine Education Bibliography (not yet available in electronic form).
- Link to “Making a Difference” (Sea Grant results). (<http://www.mdsg.umd.edu/NSGO/SeaGrantResults/index.html>)

- Link to Oregon Sea Grant's *Other Ocean and Coastal Resources*. (<http://seagrant.orst.edu/otherwww.html>)
- Comprehensive directory for Sea Grant staff nationwide.
- Links to viewable, formatted, full-text Sea Grant publications.

## **Styling Your Web Site**

### **Controlling How Your Site is Viewed**

The style, as well as the content, of the material on your Web pages is paramount to creating a useful Web site. Poorly designed sites or those that are static will die from lack of interest. We have developed some guidelines to prevent this from happening to your Web site.

Unlike printed documents where the creator has complete control, the user has a great deal of control over how each Web page is displayed. The look and feel of a Web page depends on the type of computer being used by the person browsing a Web site. The style guidelines developed by the Sea Grant Web group should also help you to exert maximum control over your Web site and how it is presented to potential viewers.

### **Using Graphics**

The Sea Grant Web presence should strike a balance between simplicity, elegance and technological leadership. The pages and information provided by our Web network should be simple enough to be useful for all of our audiences and still take advantage of the latest innovations. In simple terms, your pages must be constructed so that the information can be seen by the viewer no matter what browser he or she uses. And even for the more technologically advanced browsers you will want to keep it as simple as possible for ease of use. For example, a graphic included in a page (i.e., in-line) should be no bigger than 50 kilobytes (30 kilobytes or less is preferable) and use the minimum number of basic colors (should be no more than 256 colors). For larger and more colorful graphics, you can give the user the option of viewing via a link that displays a thumbnail image along with an indication of the size of the graphic.

### **Using Links and Imagemaps**

Another advantage of the Web is the easy jump from page to page using links. When users activate a link, they may be accessing a page at the same site or linking up to another site half way around the world. Therefore it is very important that each of your pages has some characteristic that identifies it as belonging to the individual program or region. This may be done graphically or by using some of the advanced HTML commands, but it should also be done using text or a workable combination of the two, so that it can be seen by both graphical and text-based browsers. (Please see the following section, Using Logos, for a more complete discussion on program identity logos.)

An easy way to enhance a page and improve navigation within and between pages is to use point and click graphics. Where the person goes depends on what part of the graphic is selected. Text links should also be provided (e.g., below the image). Clickable graphics require that the imagemap c script is available in the CGI-BIN of your Web server. Once the graphic has been created (e.g., a map), a file containing image coordinates and links is easy to create using one of the many imagemap freeware programs. To check out an imagemap and see how it works, please visit

the URL <http://www.mdsg.umd.edu/NSGO/NationalSeaGrant.html>. After testing out the clickable areas on the map, you should view the source to see the HTML code.

It is by well-thought-out use of links that the Web page creator exerts the greatest control. Once a page is developed, it should be tested on a variety of computers (e.g., Macintosh, UNIX and PC using Windows) and different monitors using several different Web browsers (e.g., Netscape and Mosaic) if at all possible. What looks good on one type of computer with one version of Web browser may not look good when viewed with a different system. Some rules of thumb are given in Table 2.

## Page Features

The following information includes many references to HTML, or the coding used to prepare documents seen on the Web. If you are still in a beginning mode, you will probably want to get one of the books listed in the Bibliography to use as a reference. If you have trouble selecting one, Laura Lemay's first book is quite good for the basics and includes handy appendices that spell out the coding for you.

**HTML:** The primary tool you will use to construct your Web pages is HTML (Hypertext Markup Language). HTML is in a state of rapid evolution. "Standard" HTML provides a limited number of formatting options, but has the advantage of being readable by many different browsers, including older versions of Mosaic and Lynx. Many Web developers are experimenting with newer, additional HTML extensions, developed to work with Netscape browsers, which permit the use of colored backgrounds, tables and other more sophisticated operations. Such extensions are not (yet) considered standard, and not all browsers are being designed to take advantage of them. If you choose to use such extensions, keep in mind that the results may not be viewable to everyone who accesses your site. Consider providing text-only options for graphics-dependent links.

**Basics:** Each Web page should include such basic features as head and body sections and unless it is absolutely necessary, no page should exceed 1-2 screens. Longer pages should have a table of contents (links to sections further down in the page) or other ways to help the user navigate through the material easily and quickly. Each page should allow the user to go directly back to the main home page and ways to provide comments and suggestions. All of the pages at a site should be interconnected in as many ways as are reasonable to assist the user in finding information.

For an example of rules of thumb on including page features, please visit the URL <http://www.mdsg.umd.edu/NSGO/index.html> and under "View" select the "Source" menu item at the top of the page to see the HTML code. (Viewing the source code for any page you visit is a good way to learn HTML.)

**Coding:** Figure 1, below, shows you the general layout of a page. You will notice that the entire page is enclosed between the codes <HTML> and </HTML>. These commands define the start and end of a page and are used by Web crawlers to identify and index pages. The top portion of a page is the head section. Included between <HEAD> and </HEAD> should be a descriptive title that the browser uses to label the current window. While there are other items that may be used in the head section, the title is currently the only one that can be seen by everyone.

The body section is where you layout your information and should begin with <BODY> and end with </BODY>. There are some advanced options that may be used with <BODY> command (e.g., BACKGROUND= a gif file). But do not depend on these options to identify your site or provide key information. Keep in mind that the advanced options may not be viewable to everyone who accesses your site.

The first part of the body should identify your site and quickly explain what the particular page is about. Once again, site identity may be accomplished by using the appropriate identity logo (please see the logo section below for more information). To create page titles, use <Hn> and </Hn> commands where n is the appropriate title number. (Heads can be specified on a scale starting with 1, the largest, and ending with 6, the smallest.)

Between the <BODY> and </BODY> codes is where you will display your information. As we have already mentioned, Web presentation is very different from print and you will have little control over how the page will be displayed in regard to such things as the size of the window or the font types and sizes used. Please keep this in mind and keep your paragraphs short and whenever possible include bullet lists, links to other pages and similar devices for the sake of clarity and brevity.

The bottom part of the page is where you will remind whoever visits it that it belongs to your site. This may be done using a very simple graphic (for instance, the University of Maryland uses a very small slice of their state flag). It should also contain the date the page was last modified and who is responsible for the page, including how to contact that person to provide feedback. You can use MAILTO: or a feedback script to accomplish this purpose. You should also include NOAA's logo or some other way to identify Sea Grant with NOAA.

**Figure 1. General layout of a page.**

```
<HTML>
<HEAD>
<TITLE>
General layout of a page. (This line should be descriptive because browsers use this as a label for the current window.)
</TITLE>
</HEAD>
<BODY>

<H1>Quick Identity (header info)</H1>

The top of your page. The first part should use graphics and header commands to quickly identify the contents of the page. You may include an appropriate Sea Grant identity logo here.

The middle of your page. Here is where you insert your text. Use the various HTML commands to display your information. Keep your paragraphs short and use bulleted lists and similar structures.

The bottom part of your page. This is where you should include the date last modified, identify the webmaster and provide a way to contact this person and NOAA's and your program's logo.

</BODY>
</HTML>
```

## Using Logos

Programs that choose to use a version of the national graphic identity logo on their Web sites (national, regional, state or other affiliation) should get a copy of the approved professionally designed artwork from Susan Gibson of Alaska Sea Grant. She has created GIF files for the national and generic logos in both positive and reverse versions. You can obtain them by file transfer from the Sea Grant Logo FTP site.

These logos are for immediate and temporary use until a more appropriate logo for each program's site can be created. When you use these logos, remember that changing the size of a GIF file once it has been created degrades it considerably. For this reason, each program should use the Generic GIF file or create a new GIF file from its own electronic versions to fit whatever individual Web site requirements need to be met (i.e. size, color, version).

The Sea Grant Logo FTP Site contains all of the Sea Grant logos that have been developed and approved plus logos of other affiliated organizations such as NOAA. All of the program logos are available in the folder called "LOGOS".

Also at the FTP site is another folder entitled "HELPfile", which includes pertinent information for the person who will most likely be using these logo files. The most important and useful of these text files is located at the root level and is entitled "INDEX.txt". This file will give you the most up-to-date information available about the contents and changes made at the site.

## Downloading

The following are instructions for accessing the SG Logo FTP site and downloading the files found there using Fetch (Macintosh) or Netscape (Macintosh, PC, UNIX). Other FTP software also can be used to obtain the files at this site.

### Using Fetch (Macintosh):

- (1) Select OPEN CONNECTION
- (2) For each field, enter the following information:  
HOST: zorba.uafadm.alaska.edu  
USER ID: anonymous  
PASSWORD: type in your email address  
DIRECTORY: /pub/SeaGrant
- (3) Select OK

You will see a list of available files and folders. To download a file, select it by clicking on it once and then select the GET FILE button. A second dialog box will appear asking you to name the file (you can leave the default filename as is) and where you want to save the file to. Select the SAVE button. The file will be downloaded to the destination you have chosen on your hard drive.

To download an entire logo folder, select the folder you want by clicking on it once. Go to the REMOTE menu and select GET DIRECTORIES AND FILES. You will see a new dialog box asking you to name the folder (you can use the default name) and choose where you want it saved. Select the SAVE button. The folder and all of its contents will be downloaded to the destination you have chosen on your hard drive.

**Using Netscape (Macintosh, PC or UNIX):** Probably the easiest way to download from an FTP site is with Netscape. Before you attempt to download any files with Netscape, create a folder/directory somewhere on your hard drive and give it a name like "Receive." Go to the OPTIONS menu choice while Netscape is open, choose PREFERENCES and then choose APPLICATIONS AND DIRECTORIES at the top of the dialogue box. At the bottom is the choice for a temporary directory. Choose the BROWSE button to find and select your folder, "Receive". Your temporary directory is now selected. Anything you want to download in the future using Netscape will automatically go to that folder/directory. To download using Netscape, type in the URL ftp://zorba.uafadm.alaska.edu/pub/SeaGrant/) and hit return.

You'll see a list of folders for the various programs. Choose the folder or the file you want to download. The file will download to your computer into the temporary directory you have designated within Netscape.

If you have any trouble using Netscape to FTP the logos, or if you need a new version created especially for your needs, please contact Leigh Handal at handallj@muscd.edu and you will be provided with the correct art.

**Table 1. Recommended items for each individual program and region.**

<ul style="list-style-type: none"> <li>• Links to information about National Sea Grant Program and the National Office: <ul style="list-style-type: none"> <li>Information that explains the mission of Sea Grant (<a href="http://www.mdsg.umd.edu/NSGO/WhatisSeaGrant.html">http://www.mdsg.umd.edu/NSGO/WhatisSeaGrant.html</a>)</li> <li>A national map and links to the programs and regions (<a href="http://www.mdsg.umd.edu/NSGO/NationalSeaGrant.html">http://www.mdsg.umd.edu/NSGO/NationalSeaGrant.html</a>)</li> <li>Project directory maintained by the National Office</li> <li>Link to the Pell Depository</li> <li>Link to the National Media Center which includes the experts guide, News releases and other items provided by Ben Sherman (<a href="http://www.mdsg.umd.edu/seagrantmediacenter">http://www.mdsg.umd.edu/seagrantmediacenter</a>)</li> </ul> </li> <li>• Information about the individual Sea Grant program and the other programs in its region: <ul style="list-style-type: none"> <li>Project summaries and information about the current funding cycle</li> <li>One-pagers for the local program along with other thematic items of local or regional interest</li> <li>Directories of staff, program personnel, advisory boards, etc.</li> <li>Direct links to nearby programs and the regional sites</li> <li>Links to the regional sites</li> <li>Calendar of events</li> <li>Information about print, video and other publications</li> </ul> </li> <li>• Items of general interest (e.g., career guide, marine education bibliography, how to get on newlists or discussions)</li> </ul>
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**Table 2. Rules of thumb**

- Keep it simple
- Provide site identity by using Sea Grant identity logos and other simple graphics along with text
- In-line graphics should be no bigger than 50 kilobytes (30 kilobytes or less is preferable)
- Use the minimum number of basic colors (should be no more than 256 colors).
- Larger and more colorful graphics - give the user the option of viewing by using a link that displays a thumbnail image along with an indication of the size of the graphic.
- Cross-link your pages to make navigation easier.
- Every page should provide a quick way back to the main page.
- Use lots of links to interconnect your pages. This will make it easier for users to navigate through your site as well as maximize the use of the information you provide.
- Provide a way for feedback and suggestions.

## **Marketing Your Program Through the Internet/World Wide Web**

Below are some ideas for marketing strategy devised at the Sea Grant Web developers meeting. Because this is a loose strategy and because everyone who is doing Web development was not at the meeting, we offer this material as suggestions and invite everyone to contribute their own thoughts and offer comments (You may such comments to any of the Web planning committee members. See a list of committee members at the end of this document.). In the meantime, our committee will be developing and beginning to implement the following strategies.

### **Market Research**

One of the most important components of marketing is knowing your audience and addressing their concerns and interests. We all have some idea who our audiences are as individual Sea Grant programs and even on a national level. What we're not sure of yet, because of the fresh technology, is our World Wide Web audience. We need to determine who is accessing our pages and why in order to make our Web pages serve our audience in the best and most efficient way possible.

Our committee discussed the importance of being able to track who uses our Web pages in order to better serve the users. At this time it is not possible to set up a uniform system of measurement across the network. There are a number of different ways of accomplishing the task and no one way is viable for all systems. Web developers should use whatever tools they have available to keep track of how their pages are being accessed. Network-wide, we will investigate available statistical tools and try to find a reliable one that can be made available to each program. Within the near future, the network should begin compiling usage information from all its Web sites, analysing that information and sharing it with the entire network.

## **Reaching Your Audience**

Many MAS staff and clientele are based away from university campuses and are burdened with slow modems, antiquated telephone lines and non-digital Telco switching machinery. We've already discussed creating and maintaining state-of-the-art Web sites, but we also need to make provisions for people lacking high end connectivity in the meantime. Our strategy should be to offer a bridge to information for these users until the technology catches up with them. We can accomplish this by utilizing all the technology currently available to them including gopher/text files and emerging Web technology and graphic interfaces. For some, the use of CD-ROM's and computer disks may also be a useful interim supplement.

## **Multiple Use Distribution**

It may also be useful for the Sea Grant Association (SGA) to think about repackaging digital information already created by individual state programs and offering it to untapped and broader audiences.

For instance, a variety of high quality educational videotapes have been released by different Sea Grant programs in recent years. Those that are topically related could be bundled together and distributed as a CD-ROM package with appropriate hard copy text.

## **Making Sea Grant Information Accessible**

All Sea Grant Web sites should have pointers to each other to make it easy for users to access our information. This will also make Sea Grant a virtual community when delivering information to interested users.

We all need to create hot topic and audience buttons to help users access our information quickly and easily. In this way, we will make available research that has already been done and information that has already been assembled for specific audiences on topics of concern. Some audiences to which this could be immediately applied include teachers, marine trades and commercial fishermen.

Sea Grant might also consider negotiating with commercial vendors in the future (e.g. America Online, CompuServe, etc.) for the creation of "hot buttons" to quickly connect their clientele with Sea Grant's information Web. This might be done on a six month trial basis. During that time marketing and use data could be collected to support continuation or discontinuation of a commercial tie. If conditions prove beneficial, the SGA could negotiate a commercial licensing agreement with appropriate vendors for continuing service.

Another way of making sure Sea Grant information is widely disseminated is to register your site with the search engines (such as Webcrawlr and Lycos) which will make your pages available to as many users as are able to access them. A URL which will connect you with registration information is included in the bibliography at the end of this document. For ease of use, it is included here as well: <http://apollo.co.uk/web-kit.html>.

## **Collaboration**

At the same time we are making our information available in other ways, collaboration between Sea Grant states that are technologically "enabled" should be encouraged in order to continue building our knowledge base. This will advance Sea Grant's progress in assessing and using

emerging tools, with the developmental costs shared among several programs. An example is that of cost sharing a CD-ROM mastering unit, with the actual equipment residing part of the year in various locations for trials.

Each Sea Grant state might also adopt an inland state partner to create Internet/WWW links and relationships. Many inland states have clientele and Extension staff with interests akin to coastal states. Likewise, inland states have knowledge to share with coastal audiences. By linking Sea Grant states with inland states via Internet/WWW, our political base would be broadened and the opportunity to serve more audiences expanded.

### **Figure 2. National Demonstration Marketing Projects (1995-1997)**

- a. Sea Grant information should be formatted in such a way that it can be accessed in as many different ways as possible in order to reach the widest audience. (Begin in 1995)
- b. Use the Web to promote national Sea Grant events (conferences and teleconferences) such as the recent Fisheries Forum, by links from each separate college program Web page. (Begin in 1995)
- c. Create and experiment with key audience buttons (e.g., teachers, marine trades, etc.). (Begin 1995-96)
- d. Repackage digital information for alternate distribution. For instance, use of low power radio technology to distribute Sea Grant information. (1996-97 Project)
- e. Make a list of coastal states and a list of inland states and then pair them using physical proximity as a guide (i.e., sea grant colleges might be paired with land grant colleges as a place to start.) (Begin in 1996-97)

## **Resources**

### **The Sea Grant Network—Helping Ourselves**

When developing your Web pages, the best place to turn for help is inside the network. The best model for regional and network training is the “talent share” arrangement, which has been used in the past for joint projects and expert assistance in Sea Grant. The advantage is that a consultant from within the network already knows about Sea Grant, about how the network is structured, and is up-to-date on contents, style and marketing recommendations. Moreover, the network consultant has a head start on identifying and including links to other sites within the network.

It is understood that each region, and each program, has a unique situation, different resources, and its own particular set of problems. To address those needs, the Web committee has settled on a regional structure for network-wide efforts. A “point program” or “point person” will be identified in each region whose job it will be to provide you with advice and assistance. (Should we decide on this issue before putting this up on the Web?)

One method of fulfilling the needs of each program is the development of regional training sessions, in which either the point person or some other designated technical person(s) will meet with Webmasters-in-training at a convenient location within their own region. Or if necessary and if travel arrangements can be worked out, a network consultant can also visit individual programs for consultation. In either case, the network resource person can give follow-up assistance by phone and email.

In some regions, such as the Mid-Atlantic and the Northeast, the point people (Dan Jacobs and Kathy de Zengotita) will be able to provide direct help from their own expertise. In other regions, the point person/program may decide to do the same, or they may do the organizational work of setting up workshops and invite someone else (Kathy or Dan, for instance) to do the actual teaching.

The regional point programs will also be responsible for setting up a regional page on their site, with pointers to the other programs in their region, links to the national office and the national network, maybe a listing of “hot topics” for that region and any other pieces agreed upon. The point program may also maintain another program’s home pages on their site until that program has the necessary hardware and/or training to do it themselves.

## **Proposal Writing**

Regional point programs may wish to produce a written proposal when seeking assistance with Web development. The use of a formal or quasi-formal proposal to outline your Web development program is highly recommended. The proposal format will lend structure to your plan, whether it produces additional money or not. It provides a handy venue for delineating goals and objectives, methods, and intended results and ensures that everyone involved understands and agrees on what is to be accomplished.

## **Going Outside—Consultants, Campus Helplines, Grad Students**

Even though some programs are planning to produce their pages by hiring an outside consultant, or have already done so, and this method has a few advantages such as getting good quality Web pages quickly without taking up regular staff time—we strongly recommend that, even if a consultant or graduate student is used for the initial work, someone on staff be trained in basic Web-work.

There are a number of good reasons for this:

- Consultants are expensive, especially if you have to recall him or her every time you need some trivial change made (a new phone number on the staff list shouldn’t cost you.)
- Outsiders cannot be expected to understand the many functions of Sea Grant, the complexities of our constituent base, the technicalities of our research programs, or even the internal organization of the Network. (A mystery to many of us.)
- The more input you are able to give a professional, if you use one, the better your pages will be. So someone on staff needs to know the Web really well, at least as a user (preferably as a creator) in order to know what is possible, how the contents of the site should be arranged, and what the useful links are, internally and externally.
- Professional consultants are sometimes long on glitz and short on substance, and a few of them don’t know what they are doing, period. If someone on staff has at least a rudimentary understanding of Webbing, they will be able to judge the consultant’s work.

## Campus Help Folks

Most of us have access to on-campus Helplines, Network Services departments, and in-house computer training courses. As with consultants, the more you know, the more effective your use of these services will be. If you can talk the lingo, you will get a lot more help out of a helpline operator; if you know exactly what you want or need installed in your computer or office you can negotiate intelligently with your network people. Your regional point person may help with this, but be prepared to learn some of it for yourself—even if you aren't actually doing the work, you need to be able to talk to those who are.

## Bibliography

There is already a vast amount of how-to information out there for incipient Webmasters. Following is a list of some aids to Webbing, with these ratings:

- \* = beginner
- \*\* = intermediate
- \*\*\* = advanced
- + = any level

+ Allison, Bob. 1995. *Tips for Web spinners*. <http://gagme.wwa.com/~boba/tips1.html>

Allison has created an excellent site for beginners, called “Tips for WebSpinners.” This is basically a much friendlier, scaled-down version of his Web Masters page (see next entry), with lots of explanatory text—aimed at beginners—and a much less intimidating format (at least in my opinion) than the Web Masters page. It has a vast number of useful links, nicely categorized by theme, plus excellent tips and recommendations. Themes/topics include an introduction to the Web, Web statistics, presenting information, Web style, searchers, Web-related newsgroups, GIFS and icons (and some good links to interactive sites that might prove helpful in developing your own images), clickable maps, page backgrounds, HTML editors and converters, advanced tools, and registering and publicizing your page. This site is highly recommended for anyone, but especially for beginning Web developers.

\*\* Allison, Bob. 1995. *Web masters*. <http://gagme.wwa.com/~boba/masters1.html>

A “page for Web Masters.” Incredibly, overwhelmingly, wonderfully comprehensive. Starts with basic Web usage stats, then basic elements of a home page, style, Web searchers, sites to browse, Web-oriented newsgroups, making internal links, links to GIFS and icons, making clickable maps and images, HTML guides, HTML editors, HTML converters, general tools and techniques, Web browsers, sites to register your home page, and publicizing your home page. Links to pretty much every resource a Webmaster would ever need, and then some. Too mind-boggling for the beginner, and somewhat random in its organization, but a must-see for intermediate or advanced Webmasters and a good place for the curious and brave beginner to be awed by.

\* *Andreessen, Marc. A beginner's guide to HTML. <http://www.ncsa.uiuc.edu/demoweb/html-primer.html>*

A good basic primer for producing HTML documents. One long document, but the table of contents contains links to various sections. Some style considerations are addressed, but this is basically a simple how-to-code-HTML guide. Has some good tips scattered through the beginning portion of the document.

+ *Apollo Advertising. Web referencing kit. <http://apollo.co.uk/web-kit.html>*

Links to several key directories on the Web for registering a Web site, including InterNIC, NCSA's "What's New," the Virtual Yellow Pages, several Web searchers, and others.

+ *Graphics, Visualization, & Usability Center, College of Computing, Georgia Institute of Technology. 1995. The Gvu Center's WWW User Survey Home Page. [http://www.cc.gatech.edu/gvu/user\\_surveys/User\\_Survey\\_Home.html](http://www.cc.gatech.edu/gvu/user_surveys/User_Survey_Home.html)*

Detailed results from three Web surveys reveal much information about Web users worldwide. Results include statistics and user views on general demographics, authors and information providers, Web and Internet usage, Web service providers, purchasing behaviors, and attitudes toward electronic commerce. If you're just starting to design a home page, a quick look here will give you a better idea about your targeted audience.

\*\* *Hall, Devra, and Net.Genesis. 1995. Build a Web site: The programmer's guide to creating, building and maintaining a Web presence. Prima Publishing, Rocklin, Calif. ISBN 0-7615-0064-2.*

Per Pat Kight, Oregon Sea Grant: "As the title suggests, this is written for programmers, and thus is not a basic '101 Fun Things to Do on the Internet' book. Rather, it's an extremely well written and comprehensive look at what it takes to establish and maintain a presence on the Web, from what sort of server you need to accomplish your purposes to a highly-detailed and definitive guide to HTML. It also includes a fairly long discussion of some of the philosophical issues we've begun to touch on—the 'why the heck am I doing this?' stuff.

+ *Lemay, Laura. 1995. Teach Yourself Web Publishing with HTML in a Week. SAMS Publishing, Indianapolis, Indiana. ISBN 0-672-30667-0.*

You REALLY can teach yourself how to get on the Web in two weeks! This book has really good appendices, too, including a great HTML tag guide. After you get yourself up and running, it serves as an excellent resource if you forget how to do things or you find new things you want to do.

+ *Lemay, Laura. 1995. More Teach Yourself Web Publishing with HTML in a Week. Sams.net Publishing, Indianapolis, Indiana. ISBN 1-57521-005-3.*

This book picks up where the one above leaves off and gives you more technical information. This is especially good as a reference for people who want to delve deeper into Webbing. However, it also contains some more up-to-date information on HTML for the beginner.

+ *Netscape Communications Corporation. 1995. Welcome to Netscape. <http://home.netscape.com/>*

An excellent Web site for learning nearly everything there is to learn about Netscape, currently the Web browser of choice for most surfers. Includes general articles on recent developments with both Netscape and the ever-changing world of the Web, access to the most current version of Netscape, instructions for using Netscape, and a jumplist. The jumplist provides links to reference materials for building a home page, links to new sites, cool sites, and means for navigating the Web.

+ *Tilton, James. 1995. Composing good HTML. <http://www.cs.cmu.edu/~tilt/cgh/>*

A guide to common errors in composing HTML Contents include good practices, common errors, things to avoid, and deprecated and obsolete elements. Can be viewed as either a single document (one long page) or a multi-part document with links.

+ *Torkington, Nathan and Boutell, Thomas, 1995. World Wide Web FAQ. [http://sunsite.unc.edu/boutell/faq/www\\_faq.html#websearch](http://sunsite.unc.edu/boutell/faq/www_faq.html#websearch)*

A comprehensive question-and-answer formatted jumplist, this site provides answers to nearly any question related to using, building and maintaining a Web presence on any platform. Topics range in complexity from the beginner to the advanced. There are links to download software, access to newsgroups and mailing lists, and a bibliography of publications about the World Wide Web.

+ *Torkington, Nathan and Boutell, Thomas, 1995. Are there books about the Web? <http://sunsite.unc.edu/boutell/faq/books.htm>*

This annotated bibliography of publications about the World Wide Web is an answer to just one question at the World Wide Web FAQ site, but is well worth mentioning on its own merit. Complete with ordering information, including ISBNs, it also provides links to reviews and in some cases, entire books on-line.

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