

# Sea Grant on the Web:

## Guidelines for World Wide Web Site Development

Updated 21 May 2004

### INTRODUCTION AND BACKGROUND

Sea Grant was at the leading edge of the move to the World Wide Web in the early 1990s, when a number of programs brought their web sites online. The SG web effort coalesced in an organized fashion in 1995, when a group of communicators, with representation from the National Sea Grant Office, program directors, marine advisory services and marine educators, met to produce a set of guidelines. The guidelines were revised in 1999 as a result of a second web task force meeting. This 2004 update of the guidebook builds upon this strong foundation and incorporates new suggestions from current network webmasters and communicators. The intent is not to impose a rigid and constraining set of criteria or regulations for web page development, but to give Sea Grant a unified web presence that still allows programs to showcase their individuality.

All of Sea Grant's 30 programs have web sites, each seeking to meet the needs of its visitors and staff, while at the same time promoting the mission and the cohesiveness of the entire Sea Grant network. Some programs have large and complex web sites containing hundreds of pages, and the resources to maintain them. Other programs have fewer resources and materials and web pages, and that works for them. Every SG program should assess how the use, functionality and ability to maintain a site fits into its own needs and resources.

### Content of Your Web Site

The following elements and features should be part of each Sea Grant Web site, as appropriate. These recommendations are aimed at maintaining a degree of continuity across the network which will help us present Sea Grant as a unified national program.

### Guidelines for Minimum Features

Of utmost importance, remember that it is critical to the success of your web site to ensure that it contains current information about your program and that links to other sites are valid.

- **Location and contact person.** Your program's street address, mailing address, phone and fax numbers, as well as a "contact" link, should be prominently displayed.. Note: Consider providing a generic contact address rather than a person's name so that spammers cannot "harvest" an individual's e-mail [e.g. [virginia-sea-grant@virginia.edu](mailto:virginia-sea-grant@virginia.edu) instead of [jane.doe@virginia.edu](mailto:jane.doe@virginia.edu)]
- **Sea Grant logo.** The national logo (if adopted by your program), or at minimum your own program's logo, should be prominently displayed on your front page.
- **Identifying element.** A thumbnail of your logo or other chosen identifying element appear on all succeeding pages linking back to your front page so people can easily access it regardless of where they enter your web site.
- **Site map.** An index or table of contents of at least the major pages in your site should be provided.
- **Search feature.** If your Internet provider does not have a local search engine in place, it is possible to use a major search engine as a local searching tool.
- **Address copyright issues** concerning graphics, etc., on front page and on any other appropriate page.
- **Link to the National Sea Grant Office page** (<http://www.nsgo.seagrant.org/>) from your front page or a major subpage.

- **On front page or a major subpage:** the NOAA logo, linked to the NOAA front page ([http://www.noaa.gov/.](http://www.noaa.gov/))
- **Link to the National Sea Grant Library database** (<http://nsgl.gso.uri.edu>) .
- **Link to the National Media Center** ([http://www.seagrantsnews.org/.](http://www.seagrantsnews.org/))
- **On EVERY page:** Notation of date last updated (or reviewed in the case of pages that do not change). Viewers need to know if the information is current or accurate.

## Recommended Features

- **Archives of your program's informational materials**, such as magazine articles, newsletters, radio scripts or news releases. (NOTE: For programs not wishing to archive publications, include a link to the Sea Grant Library, where all official SG publications are available on loan in hard copy and many are available online as PDF files.
- **Links to a regional page** and nearby Sea Grant programs.
- **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 National Sea Grant map** and list of all 29 Sea Grant programs (<http://www.nsgo.seagrant.org/NationalSeaGrant.html>)
- **Link to National Sea Grant research project database** ([http://www.oarhq.noaa.gov/seagrantsp/SG\\_Public\\_Search/SearchHome.asp](http://www.oarhq.noaa.gov/seagrantsp/SG_Public_Search/SearchHome.asp))
- **Link to national Sea Grant staff and program directories** (<http://www.nsgo.seagrant.org/dir.html> )
- **Directory of Marine Advisory/Extension staff**, preferably with contact information and description of each person's specialties.
- **One-page fact sheet that describes your overall program effort**, preferably with a version offered in PDF format or with a link to a downloadable version on an FTP site.
- **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 funding eligibility, how to apply for funding, timetable for requests for proposals, and links to forms.
- **Downloadable budget forms** for omnibus proposal writing. These should include at minimum the 90-2 (project summary form) and 90-4 (NOAA budget form). These may be downloaded from <http://www.nsgo.seagrant.org/research/rfp/index.html#3>
- **Link to National Sea Grant funding information** for research and fellowship opportunities <http://www.nsgo.seagrant.org/funding.html>
- **Links to pertinent colleges, schools and departments** at your institution, including student recruitment resources.
- **Links to or email addresses of news groups, listservs, mail groups or bulletin boards** related to your program's interests.
- **Tool for tracking site statistics** - how many "hits" and from where. This information, while useful for the web keeper and the program, may not be desirable to display on the site.

## Other Possible Features

- "Mini home page" or links to 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.
- Online order forms for information products.
- Links to Marine Science Careers <http://www.marinecareers.net/>, and Careers in Oceanography and Marine-Related Fields <http://www.onr.navy.mil/onr/careers>.
- Link to Oregon Sea Grant's Ocean and Coastal Resources On Line <http://seagrant.orst.edu/links/morelinks.html>.
- Links to viewable, formatted, full-text Sea Grant publications. Included might be the Sea Grant Theme Team One-Pagers at: <http://www.sga.seagrant.org/docs/one-pagers.htm>

## WEB USABILITY

Usability means making sure that a person of average ability and experience can use your site without getting hopelessly frustrated. Much of usability is common sense, though it's not necessarily obvious until after someone's pointed it out to you. There is no "right" way to design Web sites, but there are useful guiding principles to keep in mind.

### Design

- Clear visual hierarchy - Learn and use the various conventions of page layout and formatting. Most important headings are either larger, bolder, in a distinctive color, or nearer the top of the page, or some combination.
- Things related logically are also related visually (e.g. side bar items)
- Break pages up into clearly defined areas
- Links - Make it obvious what's clickable, and what it leads to
- Keep things simple: Keep important content to easily digestible "chunks" of text and graphics.
- Archive content- archives add substantial value to a site with very little extra effort.
- Date content - Without dates on content, users have no idea whether the information is current or obsolete.
- Page Names - Every page needs a name, the name needs to be prominent - link name and page name need to be consistent [e.g., Preliminary Proposal Index (link) Preliminary Proposal Index (page name)]
- Breadcrumbs - Useful indicators that show you where you are in the site's hierarchy- the path from the home page. (e.g., Home -> Proposal -> Preliminary Proposal Index)
- Site ID - Site ID or logo needs to be on each page so users know where they are.
- Frames - Avoid frames unless you are highly skilled with their use and then only sparingly. The links to the pages are not what you expect and printing is difficult with scrolling frames.
- Keep important information in the center of the page.
- Get rid of long lists - Users don't like sifting through long lists to find a product.
- Download times - aim to have your page load as quickly as it can.

- WebSafe Colors - Consider using a websafe color palette to ensure your colors will look as expected on older monitors. Also note that dyslexics can read better with the lightest shade of gray than on white backgrounds.

## Navigation

Navigation Test - if you were dumped on a web page in the inside of a website you should be able to answer these questions:

- What site is this? (Site id)
- What page am I on? (Page Name)
- What are the major sections of this site? (Sections)
- What are my options at this level? (Local navigation)
- Where am I in the scheme of things? ("You are here" indicators)
- How can I search?

## Search

- Search - use the word search, instead of fancy wording (e.g., quick find) and have search available on each page.
- Make sure your search engine works!

## Reading on the Web

- Scannable text - It is more difficult to read online than in print. Cutting wordiness can increase usability by more than 50 percent, and text formatted with bullets can produce almost a 50 percent improvement. Good writing for the Web is concise, with no unnecessary words, no unnecessary sentences. Get rid of all the words that no one is going to read.
- Keep headlines and subheads clear and meaningful.
- Use bulleted lists when possible
- Scrolling - While it's a good idea to keep your pages short, using many short pages requires especially clear navigation. People are more successful at finding what they're looking for on a site with a few long pages than one with a larger number of short pages.

## Home Pages

- Home pages are your most valuable real estate - your face to the world and are viewed more than any other page. Make your site's purpose obvious, provide clear navigation to internal content and include a search tool.

## Graphics

- Use meaningful Graphics, - Images are powerful communicators when they show items of interest to users, but backfire if frivolous or irrelevant.
- Avoid "mystery meat" navigation - cryptic images used as navigation buttons but lacking clear text labels.
- Thumbnail Images - Use fewer people and objects and less complicated settings than you would for photos intended for print.
- Inline graphics - no bigger than 50 kb (30kb or less is preferable).
- ALT text - use alt text to describe the image's meaning - not irrelevant visual information
- Site Map
- Keep them simple. Visualize the structure of the map to help users get an overview of the site's areas in a single glance. Anyone who has been to a shopping mall knows the value of the "you are here" dot on the map.

## **Rich Content Issues**

- PDF Files - Spare your users the misery of being dumped into PDF files without warning. Make sure links specify that the user is going to a PDF, and include the file size [e.g., ProjectSummaryForm.pdf, 85kb]
- Consider creating special gateway pages that summarize the contents of big documents and guide users gently into PDF download.
- If possible, provide the information in an html document or make it available by ftp.
- PDFs also pose accessibility issues. See "Accessibility" section, below.
- Unconstrained use of multimedia (Flash, audio video, animated GIFs, etc.) results in pages that confuse users and make it harder for them to understand the information. Save multimedia for special purposes, and be sure to offer low-bandwidth, accessible alternatives.

## **FEDERAL, STATE AND INSTITUTIONAL LANGUAGE AND LOGO USE**

Detailed guidelines for logo use are available in "A Manual for Graphic Identity Standards" at:

<http://www.uaf.edu/seagrant/private/SGlogos/graphic-identity.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. Please bear in mind that there are specific guidelines for use of the national graphic identity, including minimum size requirements and restrictions on modifications.

## **Federal, State and Institutional Guidelines and Standards**

Sea Grant web sites should adhere to applicable federal, state and institutional guidelines and standards. In particular, Sea Grant Webmasters should familiarize themselves with the NOAA Web policies detailed at

<http://www.cio.noaa.gov/itmanagement/ciopol.htm>

and the NOAA Web Stylebook:

<http://www.cio.noaa.gov/itmanagement/Webstyle.pdf>

(Note that Sea Grant programs fall under NOAA's "section 2" category.)

Many Sea Grant programs also must comply with Web design guidelines set by their universities, which may include institutional logos or other mandatory content. Check with your university's public relations program for such requirements.

## **ACCESSIBILITY**

### **Why:**

According to the Pew Internet Project, an estimated 20 percent of Americans identify as disabled, and 38 percent of that group are Internet users. That amounts to 22 million disabled Americans on line - and other surveys show that disabled people tend to spend twice as much time on the 'Net as their able-bodied counterparts.

As a federal program, Sea Grant falls under the Web Accessibility guidelines set by Section 508 of the US Rehabilitation Act of 1973. In addition, public universities must meet the standards of the Americans With Disabilities Act, which guarantees equal access to educational facilities, programs and materials to all Americans, regardless of disability.

Individual Sea Grant programs also may be covered by even more stringent accessibility guidelines covered by state law, or by institutional practice.

## **How:**

It is not difficult to achieve accessible Web design - but it does require thoughtfulness as we plan, design, implement and maintain our sites, or hire others to do so

The section 508 checklists and tutorials published by organizations such as WebAIM (see Resources section) are a good place to start; they provide item-by-item descriptions of what the law requires, and specific tips on how to meet the requirements.

Generally speaking, the following should be incorporated into all Sea Grant Web sites:

### **I. Planning**

- Include accessibility in your planning from the start. It is easier to build an accessible site than to retrofit one built without adequate planning.
- When working with contractors, student Web designers and others, make accessibility part of your contract requirements. If necessary, point them to resources on accessible Web design.
- If you intend to use rich content (multimedia, interactive scripting, .pdf libraries, on-line PowerPoint presentations, etc.) plan (and budget) for accessible alternatives before the content is created.

### **II. Implementation**

Make accessibility a routine part of your Web-building process by

- Using cascading style sheets to control the appearance of your pages (Disabled viewers can override your style sheets if they need a larger font size, etc.) NOTE: Cascading style sheets (css) will also make your life easier in creating and maintaining a site. See resources link for creating styles that are compatible with older browsers (e.g. Netscape 4.x)
- Routinely using appropriate HTML markup ("alt" tag descriptions for significant graphic content, header and content tags for data tables, etc.)
- Providing alternate (plain HTML) content for all rich content, including PDFs.
- Keeping your site navigation tools simple (use text, not graphics), or including alternate text navigation on every page.
- Testing your pages on a variety of browsers, including the most widely used disability access browsers. A list of those tools can be found at <http://webaim.org/products/>
- Running your page designs through accessibility validators (also available at the WebAIM site).
- Consider adding a simple accessibility statement to your site, linked from your home page, noting your intention to provide accessible content and providing a contact person for those who have trouble accessing your content.

### **III. Resources:**

Web Accessibility In Mind (WebAIM) - <http://webaim.org/> - A comprehensive accessibility resource that includes a Section 508 checklist, tutorials and a growing collection of articles on accessibility issues and how to solve them. If you bookmark just one accessibility site, make it this one.

NOAA Section 508 Site - <http://www.cio.noaa.gov/itmanagement/508home.htm>

- Our parent agency's accessibility standards. Bottom line: " When there is a significant redesign to a site, the Web site will have to meet the standards."

## **SUGGESTIONS FOR REACHING YOUR AUDIENCE**

- Create reciprocal links with your program's partners.
- Register your site with the major search engines and indexes
- A good site to visit for in-depth information on how search engines work is Search Engine Watch at <http://searchenginewatch.com/>.
- To increase the number of hits by search engines, be sure to include all relevant key words in the title, text, and keyword metatags of your pages. For instance, on a page about eutrophication, be sure to include all the words people might use to find this information--low dissolved oxygen, DO, nutrient enrichment, algal bloom, etc
- Include your web address on all stationery, e-mail signatures, publications, etc.

## **REGIONAL WEB SITES**

Each region, and each program, has a unique situation, different resources, and its own particular set of issues. Regional pages provide a unified gateway into individual programs and show that issues often crosscut local efforts. Substantive content on these sites, especially related to regional activities, becomes a powerful tool for demonstrating our ability to act regionally.

Regional pages are housed on the servers of a "point program" or "point person" in each region. The regional point programs are 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, perhaps a listing of "hot topics" for that region and other appropriate elements.

Regional pages are as follows:

- Great Lakes: <http://www.greatlakesseagrant.org/>
- Northeast: <http://web.mit.edu/seagrant/northeast/>
- Mid-Atlantic: <http://www.mid-atlantic.seagrant.org/>
- Southeast and Gulf: <http://seagul.tamu.edu/about.html>
- Pacific: <http://www.wsg.washington.edu/regional/index.html>

## **ADDITIONAL WEB RESOURCES**

A growing list of on-line resources for Sea Grant Web developers is located at: <http://seagrant.oregonstate.edu/working/SGWeb/> .If you have resources to add to the list, contact Pat Kight ([sea.grant.web@oregonstate.edu](mailto:sea.grant.web@oregonstate.edu))

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