

National Park Service Challenge Cost Share Project Interim Report

Return form to: Lewis and Clark National Historic Trail, Challenge Cost Share Program,
601 Riverfront Drive, Omaha, Nebraska 68102.

- Include a spreadsheet detailing expenses for the budget categories with this report.
-

Project Name or Title: Lewis, Clark and Beyond (formerly Lewis and Clark gNET)

Project Number: FY06-49

Field Area: Midwest Region

Park or Trail: Lewis and Clark National Historic Trail

Name/ Address/ Telephone/ Email of Person Completing this Report:

Zac Fowler

6001 Dodge Street, PKI 367

Omaha, NE 68182-0116

zfowler@mail.unomaha.edu

(402) 554-6060

Interim Status Report:

Briefly describe the status of the Trail project products and results in measurable terms achieved to date. Attach reports &/or documents, pictures, invoices and/ or interim product example as applicable:

This report summaries activities performed during the 2006-07 fiscal year. The project was granted a no-cost extension through Sep 30, 2008. Tasks performed after Sep 30, 2007 are not included in this report. A more detailed report of activities is provided in the Accomplishment Report for FY06-49 which covers activity through the end of the grant, September 30, 2008.

LCBeyond Project Status Report – July 2006 - Sep 2007

Artifact Gallery

- Started artifact gallery from material received in Boise (XLS files)
- Creating Flash picture viewer for Artifacts
- Completed Artifacts section of website and loaded into Flash interface and admin area
- See <http://www.lewisclarkandbeyond.com/artifactList/> or the Corps II Extra menu

Challenge Cost Share Administration

- Completed and submitted quarterly and year-end interim reports
- After meeting with NPS and UNO Grants Accounting, filed for “no-cost extension” to work with remaining funding: NPS/PKI contract extended through end of Sep. 2008.

Compression Server

During the year, steps were taken to improve the compression stage of the batch video processing.

- By trial-and-error methods, bottleneck in video process is determined as compressions
- Tried second external hard drive and extra memory
- Purchased second license for Sorenson Squeeze software
- Set up new Dell 490 (Xeon 3.7 GHz, 2GB RAM) as second compression server
- Ran speed and accuracy tests for new set up
- Transferred settings from old to new server
- New server limited to 1500 compressions per month
- Performance capped at 50 per day afterwards, until the next month
- New hardware sped up compressions **drastically** – we hit the 1500/month limit in Feb

- Compressions are no longer the bottleneck for the video process
- Compression server produces compressions at much faster rate
- Old compression server still working as secondary server

Database

Performed general data consistency checks and fixes throughout the year.

- Fixed some data issues in data fields for tape segments (such missing locations)
- Reorganized the artifacts gallery database schema
- Cleaned the database of some tape inconsistencies – marking all segments of a tape live if only live segment was “Welcome and Intro”
- Corrected 56 segments with city, state location and time codes
- Performed data cleanup, correcting some tape segment titles with “intro/color bars”

Equipment and Materials Purchase

Performed general inventory maintenance and purchased upgrades for software and equipment as necessary.

General

- Purchased Flash/Actionscript book for Virtual Tour development
- Purchased copies of Studio 8 - new version of Flash with better video support early in year
- Workstations upgraded to CS3 software with new versions of Flash / Photoshop at year-end

Inventory

- Performed detailed inventory of Avid dongles, logging serial numbers, symbols on dongle
- Collected and accounted for 11 Avid dongles
- Managed inventory and tracking of external hard drives used for editing

NetApp Storage Device

- See “Servers” section. NetApp storage phased out.

New Servers for Long-Term Site Hosting

- Researched new Dell servers to handle replacement cycle of hardware
- PKI as a whole moved from IBM equipment to Dell equipment for better support
- Dell Servers ordered and received: 2x Web, 1x DB, 1x Media, 1x for router/firewall
- GIS ArcInfo machines removed from use
- Website and supporting services will be moved to new equipment in next quarter

Flyby Videos

- Flash version of Flyby Videos created and tested
- Continued Flash Flyby modifications to adjust maps and video
- Clickable areas of Flash Flyby have increased, more relative to lat/long
- Added link from video portal

General Website

Admin Backend

- Developed printable contact list for admin side, so staff can update own information
- Created new admin page to help editors keep track of recently approved videos
- Created another admin page to keep track of editors’ progress as the weeks go by
- Created expanded search for admin functions throughout. Now able to search more than one word at a time across multiple columns. This new search technique was implemented in all admin-side search boxes
- Created test webpage for entering tape numbers into inventory via PDA device over WiFi; unused
- Added ability for HTML text to be added to descriptions of videos: this allows italic, bold, and underline text in the Flash descriptions
- Added Javascript function to replace slanted quotes, etc with ASCII characters for Flash

- Fixed some URL coding in Video links and forms on admin side

General Flash Updates and Fixes

- IE had problem with Flash loading without extra click. Now fixed on all Flash pages
- Added features to video player on videos page: better user control, also playing sequenced videos now works (part 1 plays right into part 2)
- Description of video shows under each part, also minor adjustments to “Links” and “Set info” tabs.
- Fixed minor bugs throughout
- Streaming FLV files for RedHen fly-bys having minor issues with streaming server. New equipment will solve this issue.

Schedule Page

- Worked with NPS to get missing event-data (detailed schedule) from Year 3 loaded
- Added video player tab to schedule interface
- Only videos with FLV files will be available on detailed schedule page
- Added code to associate video set with detailed schedule information (presentation to video)
- Modified SQL statements to show video links under appropriate TOMV Stop presentations
- Added playlist feature to Schedule video player
- Adapted database and interface of schedule page so video presentations from the detailed schedule can be viewed in-page.

Videos Page

- Adjusted Archive Flash page so that all 900+ videos do not load at once, but instead only a few at a time, to help with load time and client CPU load
- Created Top-Ten list and Flash interface of videos based on Content Manager’s recommendations
- Featured Video page complete, needs testing and to be added to main links
- Created Video Portal page which directs users to Archives, Top Ten (Best), Features, and Fly By Videos

GIS Phase-Out

- All GIS data backed up to TB drives purchased by NPS
- GIS data given to NPS for safe keeping in the event of NetApp storage failure
- As noted in equipment section, GIS (ESRI products) phased out completely from this website
- NPS and ACoE briefed about LC data and change of direction per NPS approval
- LC group from PKI and other UNO departments met regarding possible campus-wide GIS initiative. UNO has added GIS curriculum to their Management Information Systems and Geology/Geography programs.

Links

- Added 165 links to system
- Links dropped as a priority for website content

Maps: Google Earth and Google Maps

- Google Earth KML file developed and “live” showing Corps II stops, coded as previous and upcoming stops. Icon depicting current location also presented.
- Google Earth KML files went online in “Extras” section under Corps II
- See <http://www.lewisclarkandbeyond.com/extras/>
- GMaps interface cleaned so Javascript error for each Corps II Stop no longer appears

Meetings and Conferences

- Met with Steve Adams at NPS to discuss future of LC Beyond
- Talked about what is involved with maintenance, versus further development
- NPS is looking into further development possibilities to focus website to educators
- Staff meetings to discuss transition of grant to maintenance and end of year

- Project Manager (Z. Fowler) and student developer (S. Kurapatinaga) attended Web Development and Marketing Conference Expo in San Francisco on “Web 2.0” technologies. Some of new these techniques were incorporated into the LC Admin side, and shared with workers. From this conference, it was evidenced that Flash and Flash Video is a viable and long-term web technology product.
- Hosted a LC BBQ to commemorate the work that has been put in over the last five years, many past student employees came to share. NPS was represented by K. Crisler

Miscellaneous Community and UNO Involvement by Project members

- Project Manager attended College of IS&T Recruitment as a panelist in discussing “Why UNO?”
- London continues to meet with tours and recruiting to share LC 3D tools such as Maya
- London Yang (Video Editor, 3D graphics) was awarded **Student Employee of the Year for UNO, the University of Nebraska System as a whole, and State of Nebraska**. The LC Project and the College of IS&T are honored to have him as a part of our work.

Web Programming Workshops

- Started a four week workshop series on web programming
- Classes geared towards addressing higher level web development issues
- Sessions on HTML basics, XHTML, CSS/XHTML, Forms, Databases
- Non-LC students as well as LC students and developers attended
- Eventually the roots of these workshops developed into a semi-regular “Tech Talk Fridays” for web developers at PKI

Multimedia Lab and Post-Production Class

- Lab continually maintained for Post-Production class taught by A. Grafton
- Decks, firewire devices, TVs inventoried and repaired or decommissioned as necessary
- Reset external hard drives for next semester of students, each semester
- Provide training for Post-Production class on LC video process and queues

Personnel

- Several rounds of re-hire for video editors and content managers throughout the year
- New Content Managers hired and trained on video process
- Posted positions for Temp Video Editor(s) to continue video work as much as possible
- Staff meetings held to address closing of project, new hires, and goals for closing project

Content Managers

- Bob Pawloski hired back on as Content Manager, part time.
- Hired Katie Ranniger (formally with NPS) to supplement Bob as a Content Manager
- Katie (Content Manager) was taught video editing process and attended Arlo’s class

Developers

- Hired Mohammad Rasul for Virtual Tour work
- Melissa (Developer) returned part time and will work on fixing GMaps page
- Shafiq (developer) transferred to work on another project, LC duties return after it is complete

Video Editors

- Mike (new hire from early summer) started work on videos too
- Dan (Video Editor) started work at another job part time, minimal hours on LC
- Mike (Video Editor) started work at another job part time, minimal hours on LC

Where do they go?

- Katie R. left project for graduate school; replacement Content Manager will not be hired. Duties passed to other staff.
- Harsha (Virtual Tour) left UNO for Univ. of Alabama-Birmingham Comp Sci/Graphics program

- Mohammad Rasul was offered and took a network engineer job in CA. VT work to be completed before he leaves.
- Gulnora Isaeva (Content Manager) left to teach ESL at Omaha Public Schools

Servers

- Configured server rack to allow for main IS&T systems staff emergency access if required
- Replaced failed storage drives on NetApp as needed
- Purchased additional 1-year service support NetApp storage device to support failing hard drives for current FY
- Reconfigured development (spare) server for software updates to operating system
- Revoked access from old users to increase security
- Continued domain name management for URLs
- UNO experienced planned maintenance and downtime over the winter holidays, resulting in one full day of LC unavailability, several days of spotty availability
- Researched purchasing equipment for the next three years hosting. See "Equipment" section
- Plan formed for redirecting videos to sub folders for better file management on server

NetApp Storage Device

- NetApp storage device out of service warranty at end of this FY and into Sep 2007
- Oddly, after 1 year without issue, storage drives started to fail at faster rate
- NetApp loses more spare drives; since out of warranty, replacement at this time is cost prohibitive
- Files backed up to external TB drive to serve as "off-service" backup
- Main NetApp storage now only accounts for videos and backup files. Web files are not primarily held on NetApp-only storage at risk of device failure
- NetApp backup volume reconfigured to allow for more spare disks in case of single disk failure
- PKI / College of IS&T will provide replacement storage as needed for this project

Tapes

- Received last set of tapes from TOMV stops from NPS
- Loaded tape logs into the tape tracker and video systems
- Delivered extra BRoll footage to NPS
- Located and dubbed videos which were requested by Don Hastings and approved by NPS
- Dubbed subset of 2005 tapes requested by NPS
- Returned 2004, 2005, and most of 2006 tapes to NPS
- Spent time organizing tape cabinets at PKI to facilitate editing
- Added PKI and NPS location fields to tape database tables to track physical location of tapes
- Logged tapes at PKI – single touch tape inventory using Web 2.0 technologies learned from conference

Tribe List

- Continued work on Flash page for Features
- Brainstormed Flash page for Tribe List
- Began work on Tribe List page
- Tribes List Flash page work continues
- Updated list of tribes and spellings for the site

Trivia Game

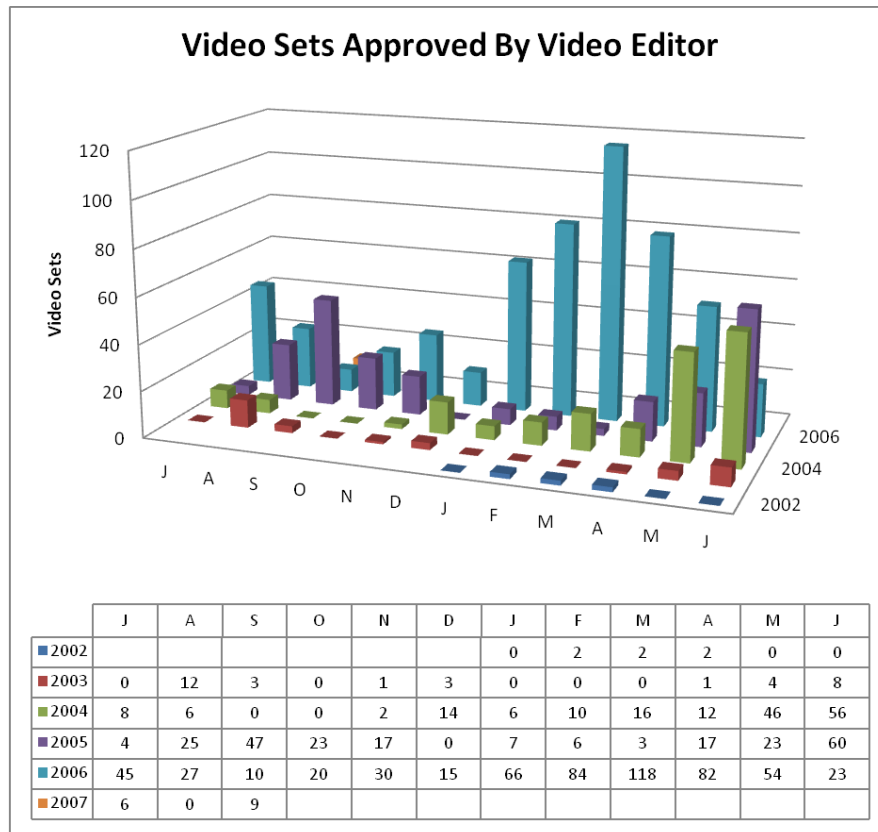
- Continued and completed work on Trivia Flash Game
- Created a new look in Flash for more animations and movement on the screen
- Created new icon sets for new look
- Used LC staff as a "user group" of trivia game and documented successes and problems
- Completed admin side for question management
- 28 questions developed and posted by Content Manager

- Added video player for hints that use a LC TOMV video for reference
- New icons for Trivia Game, and bug fixes on admin side of trivia

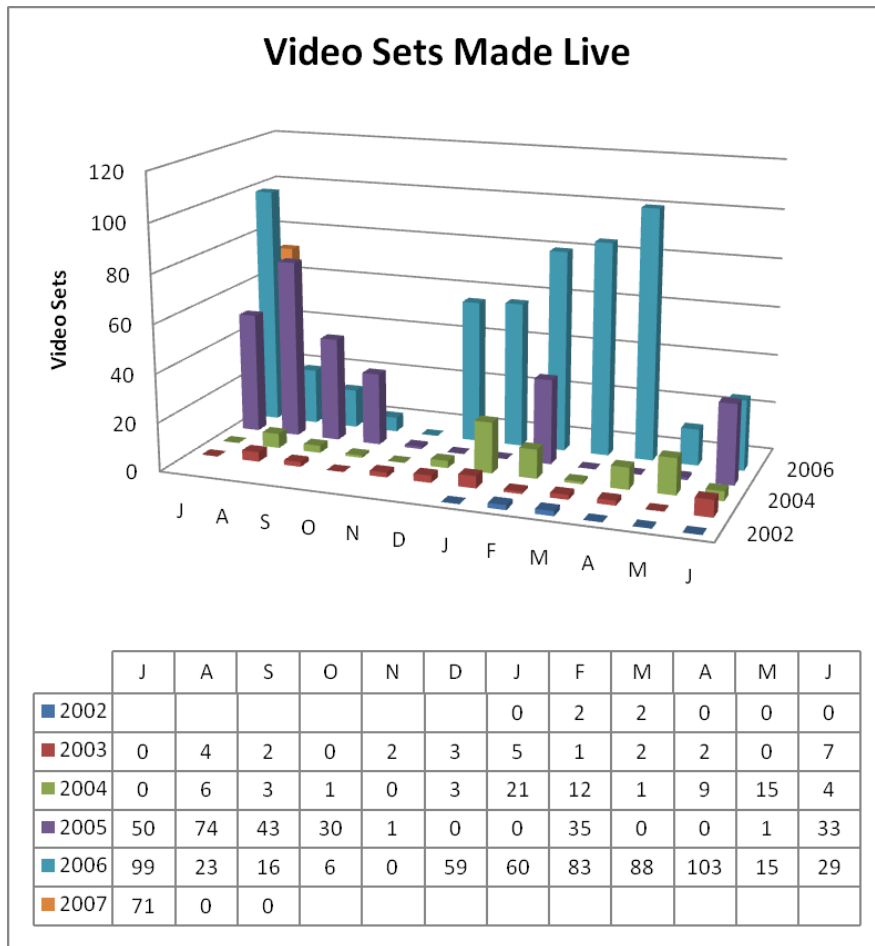
Videos

- Stopped adding title screen to videos – too many spelling or name errors in titles
- As decided by LC team and NPS, in an effort to not create a larger backlog, videos will not be edited. It was determined that if a video was recorded by the NPS, the content will be acceptable for the web and therefore no editing is necessary.
- Video process slimmed to only “capture, cut, and compress.” Editing step removed
- Work went into fixing many videos from the flagged queues
- Resubmitted or recompressed videos that had technical or format problems
- 620 Videos processed by editors
- **652 Video Presentations went “live” over the year**
- Attached over 383 videos to their scheduled TOMV presentation date and time on a Corps II TOMV Stop. This allows videos to be viewed from the Schedule page entries. See <http://www.lewisclarkandbeyond.com/schedule/?sn=80> for an example.
- Logging tapes for long term data retention discussed with NPS. No change needed for LC video process and queues. Action on this item deferred indefinitely.
- Converted all old video files (WMV/QT only) to have FLV versions
- Need for WMV/QT videos eliminated; able to remove them from storage at a later date
- Video Editors eventually tasked to write descriptions, abstract, and links for videos after Content Manager position vacated and closed. Video process slows considerably because of this.

The following charts compare video set progress and production over the year compared to previous years.



The dramatic increase in video production in the previous year by the Video Editors continued throughout this year. Production did drop after June 2007 as few videos were processed after the end of that fiscal year. The second compression server greatly enhanced the Video Editor’s productivity.



The same trend can be seen in the number of videos that went live over the years. While not as consistent as the Video Editor progress, the videos continued to be released throughout the 06-07 year and into July of 2007.

Virtual Tour

Completed extensive work in designing and redesigning the look of the virtual tour into a 3D environment using prescribed 2D-movement. The end result is a “walkable” or automated tour that depicts each panel in the exhibit tent. Users are able to interact with the artwork for more details. The NPS handheld audio tour was captured and included as part of the automated tour online.

- Redesigned interface after staff change
- Background graphics reminiscent of the “green globe” lognet scheme
- Rendered new 3D models with colored tent and colored ground
- Created and moved exhibit tent to Flash
- Worked on sound effects with Digital Performer
- Added background music and event (rollover, buttons) sounds
- Added popup panels for navigation through tent, and animated graphics
- Added NPS and LC logos to interface
- Photo gallery created to browse panel contents (images, maps, etc)
- Added preloader to all gallery SWFs
- Designed and implemented ActionScript for navigation system, includes keyboard navigation
- Main page intro completed – more animated
- Modified panels to load seamlessly in galleries

- New background images with animation, complex yet “dazzling” background for main page background
- Content Managers asked to review and critique VT project; results considered and incorporated
- Virtual Tour work completed, made “live” with link placed under “Extras” section of Corps II

Website Statistics

The graphs below show the change in website statistics over the year. After the school year in 2007, there is a dramatic drop-off in website activity which continues into September. Overall, however, the website averaged 168 visitors per month and almost 15GB of download per month. The most visitors came to the website in June of 2007, numbering 6,991. November 2006 is shown as the largest month for used-bandwidth showing 44.5 GB of downloaded content. A table with the raw data and legend follows.

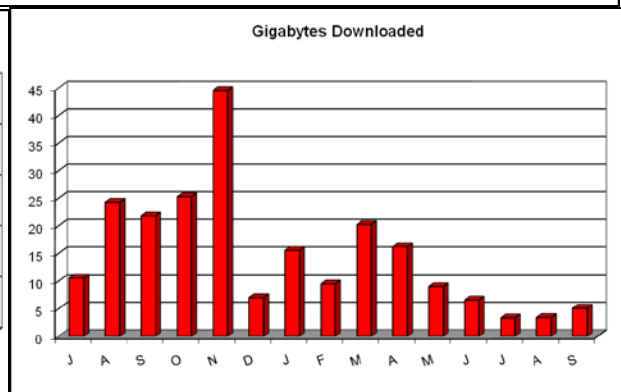
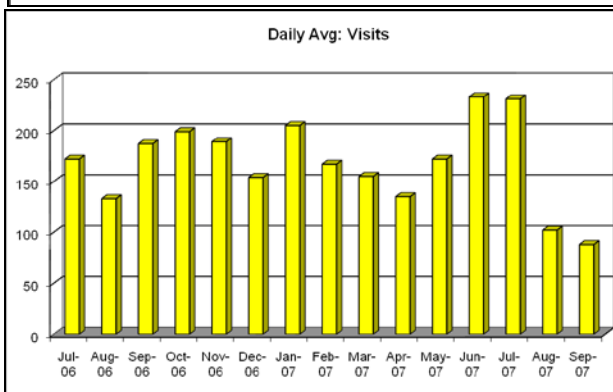
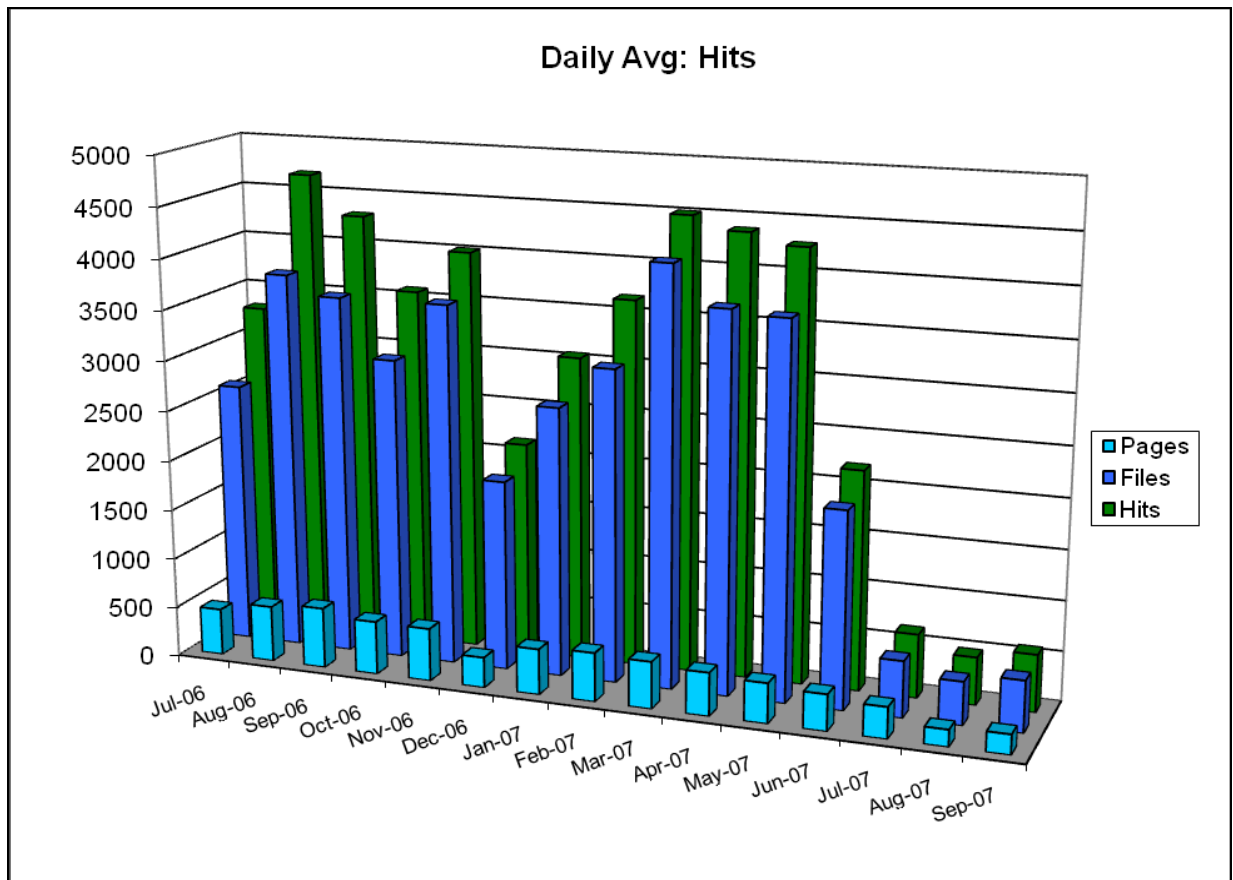


Table of Web Stats for Lewis, Clark and Beyond <http://www.lewisclarkandbeyond.com/> July 06 - Sep 07

Month	Daily Avg				Monthly Totals					
	Hits	Files	Pages	Visits	Sites	GBytes	Visits	Pages	Files	Hits
Jul-06	3294	2611	467	172	2121	10.5391407	5337	14499	80946	102116
Aug-06	4674	3775	558	133	1930	24.23790264	4149	17301	117029	144897
Sep-06	4294	3589	605	187	2349	21.85252666	5628	18168	107682	128848
Oct-06	3579	3011	533	199	2410	25.24380779	6172	16524	93343	110963
Nov-06	4006	3598	528	189	2243	44.51460171	5678	15866	107946	120189
Dec-06	2132	1901	304	154	1687	6.989886284	4790	9442	58939	66103
Jan-07	3047	2684	456	205	2336	15.53648376	6376	14160	83216	94480
Feb-07	3654	3105	487	167	1780	9.476530075	4701	13640	86943	102329
Mar-07	4501	4146	469	155	1903	20.21114826	4827	14559	128548	139555
Apr-07	4375	3758	431	135	1675	16.23792744	4068	12930	112757	131278
May-07	4269	3713	399	172	1913	8.9734478	5335	12395	115104	132351
Jun-07	2189	1957	362	233	2171	6.578034401	6991	10889	58717	65682
Jul-07	637	562	312	231	2096	3.314580917	7178	9674	17445	19750
Aug-07	477	431	168	102	1406	3.389771461	3191	5236	13368	14795
Sep-07	572	513	198	88	1369	5.067995071	2656	5960	15394	17162

Hits	-- Server HTTP responses: files, images, HTTP redirects, or errors
Files	-- All files served (images, web, text)
Pages	-- PHP and HTML files served
Visits	-- Unique IP addresses "visiting" site (up to 30 minute visit)
Sites	-- IP addresses requesting content
GBytes	-- Gigabytes transferred from server to client

Information gathered from Webalizer 2.0 report
