

Seagate File Recovery for Mac

User Guide

<http://services.seagate.com>

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I Introduction to Seagate File Recovery for Mac

Seagate File Recovery for Mac is a powerful and cost-effective undelete and data recovery software. Empowered by the new unique data recovery technologies, it is the best data recovery solution for recovering files from FAT12/16/32, NTFS, NTFS5 (created or updated by Windows 2000/XP/2003/Vista/2008/7), HFS/HFS+ (Macintosh), Little and Big Endian variants of UFS1/UFS2 (FreeBSD/OpenBSD/NetBSD/Solaris), and exFAT partitions.. Flexible parameter settings give you absolute control over the data recovery.

[Seagate File Recovery for Mac Features](#)

[System Requirements and Installation Notes](#)

[Contact Information and Technical Support](#)

[Data Recovery Using Seagate File Recovery for Mac](#)

[Disk Image](#)

[Hexadecimal Viewer](#)

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[Data Recovery on HFS/HFS+ file system](#)

1.1 Seagate File Recovery for Mac Features

Seagate File Recovery for Mac features:

- Wizard-oriented interface.
- Host OS: Mac OS X Snow Leopard 10.6, Mac OS 10.4 Tiger, Mac OS Server 10.5 Tiger, Mac OS 10.5 Leopard and Mac OS Server 10.5 Leopard running on a computer with Intel, PowerPC G5 or PowerPC G4 processors.
- Supported file systems: FAT12, FAT16, FAT32, NTFS, NTFS5 (created and updated by Windows 2000/XP/2003/Vista/7), exFAT, HFS, HFS+, HFSX, and UFS1, UFS2, UFS BigEndian (used by the FreeBSD, OpenBSD, and NetBSD operating systems).
Please note, that when a file is being deleted on the HFS, HFS+, HFSX file systems, the computer completely removes all system information on it, and there is no way to recover the deleted file except by using the [Detailed Scan for Deleted Files](#) option. Nevertheless, **Seagate File Recovery for Mac** is able to read existing files from HFS, HFS+, and HFSX disks
- Support for known file types. **Seagate File Recovery for Mac** searches for files with known typical features of their structures allowing the user to search for files on heavily damaged logical disks.
- Detailed scan for deleted files process visualization. While searching an object, **Seagate File Recovery for Mac** graphically shows items that have been found, including files of known types, FAT and NTFS MFT records, boot records, etc.
- Dynamic disk support.
- Creates image files for logical disks and hard drives. Such image files can be processed like regular disks.
- Recovers compressed files (NTFS, NTFS5).
- Recovers encrypted files (NTFS5).
- Recovers alternative data streams (NTFS, NTFS5).
- Recognizes localized names.
- Recovered files can be saved on any (including network) disks accessible by the host operating system.

- A hexadecimal disk and file viewer.
- File preview. Most of the file types can be previewed to estimate recovery chances.

Seagate File Recovery for Mac recovers files:

- That have been removed without **Trash**, or when **Trash** has been emptied;
- Removed by virus attack or power failure;
- From deleted or corrupted logical disks or partitions

Seagate File Recovery for Mac can create image files for a logical disk or hard drive. Such image files can be processed like regular disks. Images are very useful if there is a risk of total data loss due to hardware malfunction. If bad blocks are constantly appearing on a hard drive, the only way to save the data is to immediately create an image of that drive. All data search and recovery can be done from this image.

1.2 System Requirements and Installation Notes

System Requirements

- Mac OS X Snow Leopard 10.6, Mac OS 10.4 Tiger, Mac OS Server 10.5 Tiger, Mac OS 10.5 Leopard and Mac OS Server 10.5 Leopard running on a computer with Intel, PowerPC G5 or PowerPC G4 processors.
- Administrator's rights to run the program.

Installation Notes

NEVER install any software or write any data on the disk where lost data resides! Or you may damage or even completely lose the data.

See the [Data Recovery Issues](#) topic for details.

If the lost data resides on your system disk:

Use another computer

1. Install **Seagate File Recovery for Mac** on a second computer.
 2. Disconnect the hard drive with the lost data from the computer where it has been hosted (the primary computer).
 3. Connect the hard drive to the second computer. You may connect it as a second hard drive or use an HDD-to-USB 2.0 adapter.
 4. Run **Seagate File Recovery for Mac** on the second computer and recover the data.
- Now you may reconnect the hard drive to the first computer.

1.3 Contact Information and Technical Support

To obtain the latest version of **Seagate File Recovery for Mac**, go to:

<http://services.seagate.com/diysoftware.aspx>

Seagate File Recovery for Mac Technical Support Team is available 24 hours a day, seven days a week, and has an average response time less than 4 hours.

Technical support for our software products may be obtained in the following ways:

1. **Check** our [Software Frequently Asked Questions](#) first
 2. Send us an [e-mail](#) with your technical support questions. Our representatives will respond to you in a
-

reasonable timeframe.

II Data Recovery Using Seagate File Recovery for Mac

NEVER TRY TO SAVE RECOVERED FILES/FOLDERS TO THE SAME LOGICAL DISK WHERE THEY RESIDE!!!

Or you may obtain unpredictable results and lose all of your data.

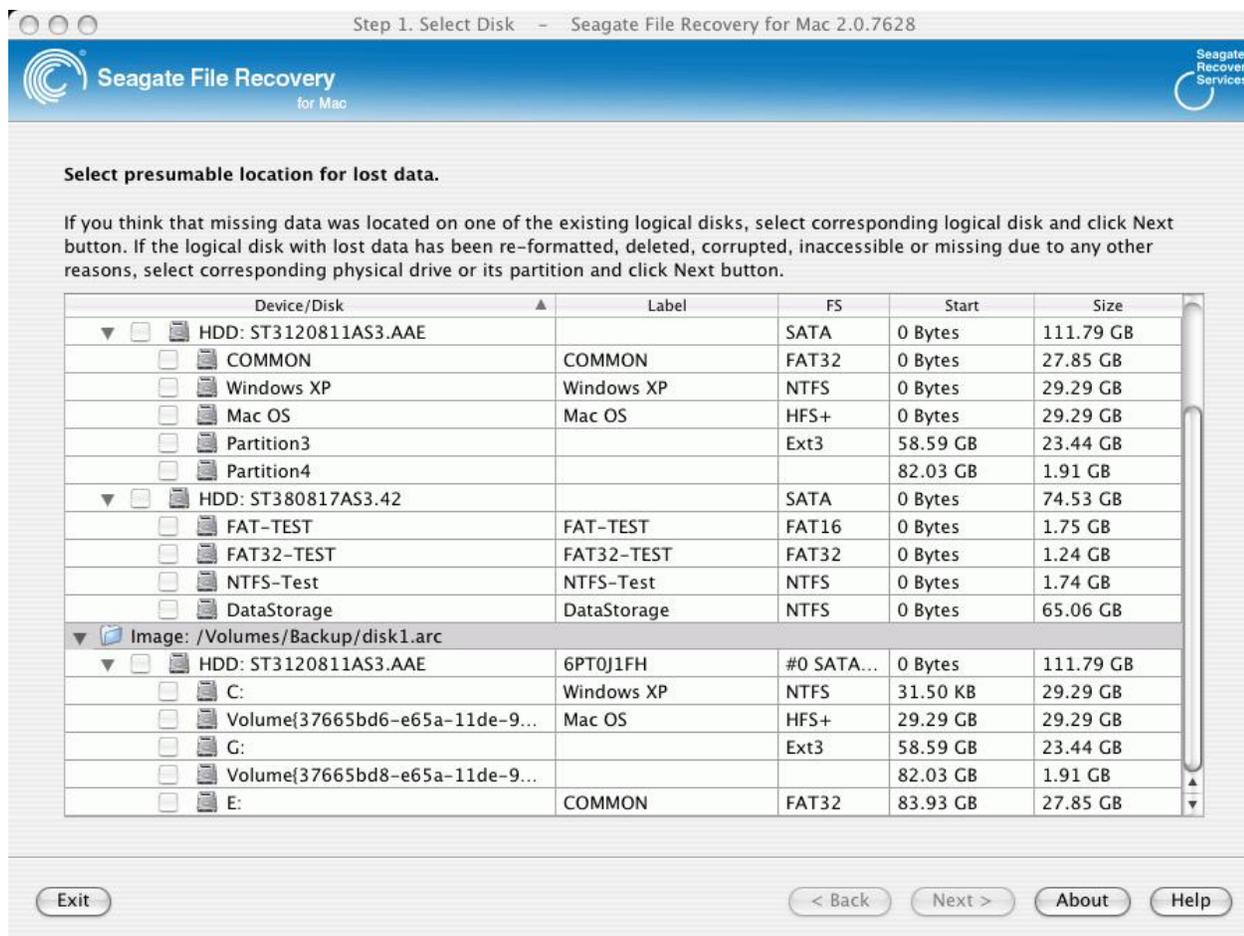
See the [Data Recovery Issues](#) topic for details.

Depending on your situation, you will need to:

- [Recover lost files from an existing logical disk](#)
- [Recover lost files from a deleted logical disk](#)
- [Create or load disk image](#)

Make the selection on **Step1**. Select disk panel

Step1. Select disk **panel**



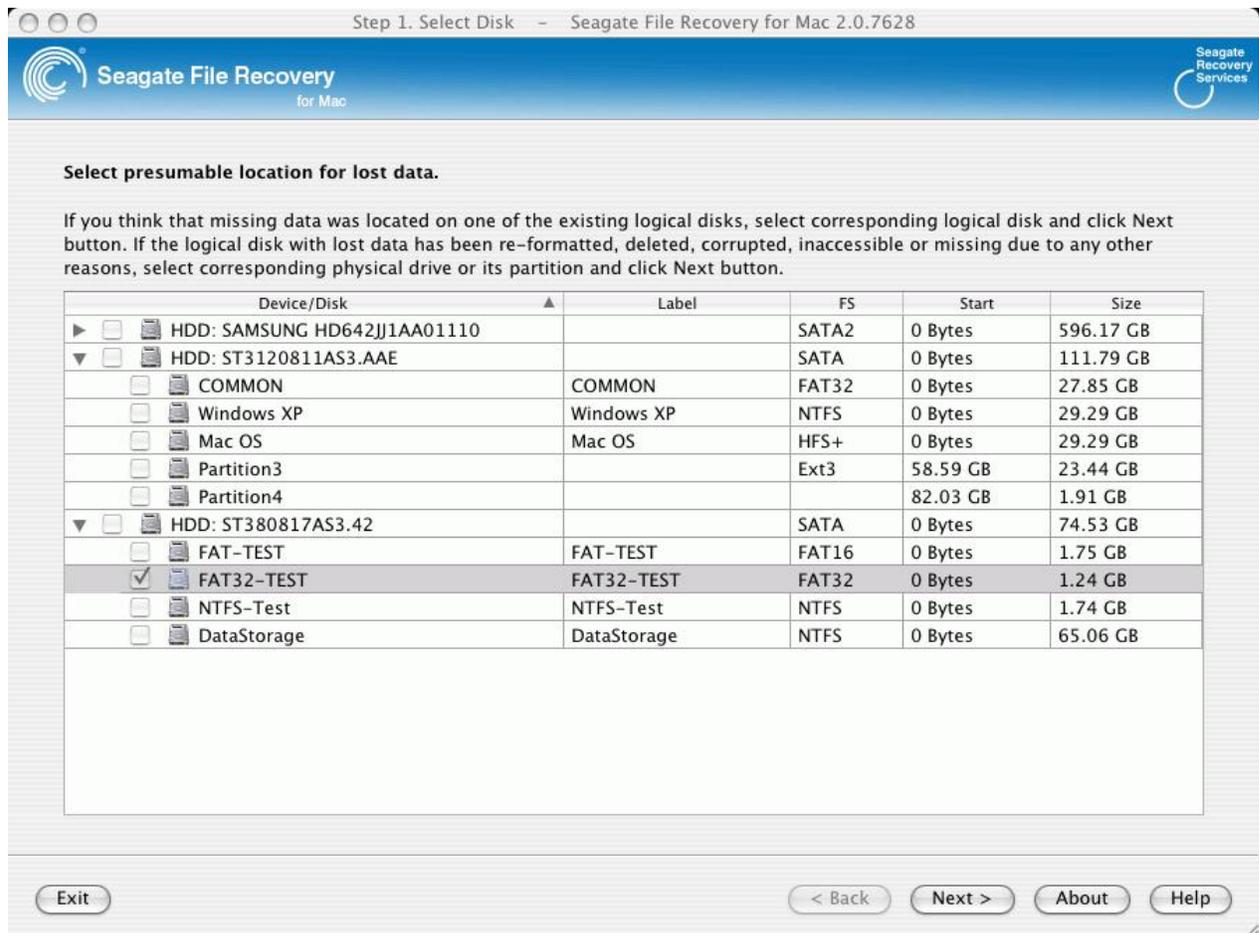
2.1 Recover Lost Files from Existing Logical Disks

Note: If you have done all the operations listed below, but still cannot find your lost files, you need to perform a [detailed scan for deleted files](#) for the files on the logical disk.

To recover deleted files from a logical disk,

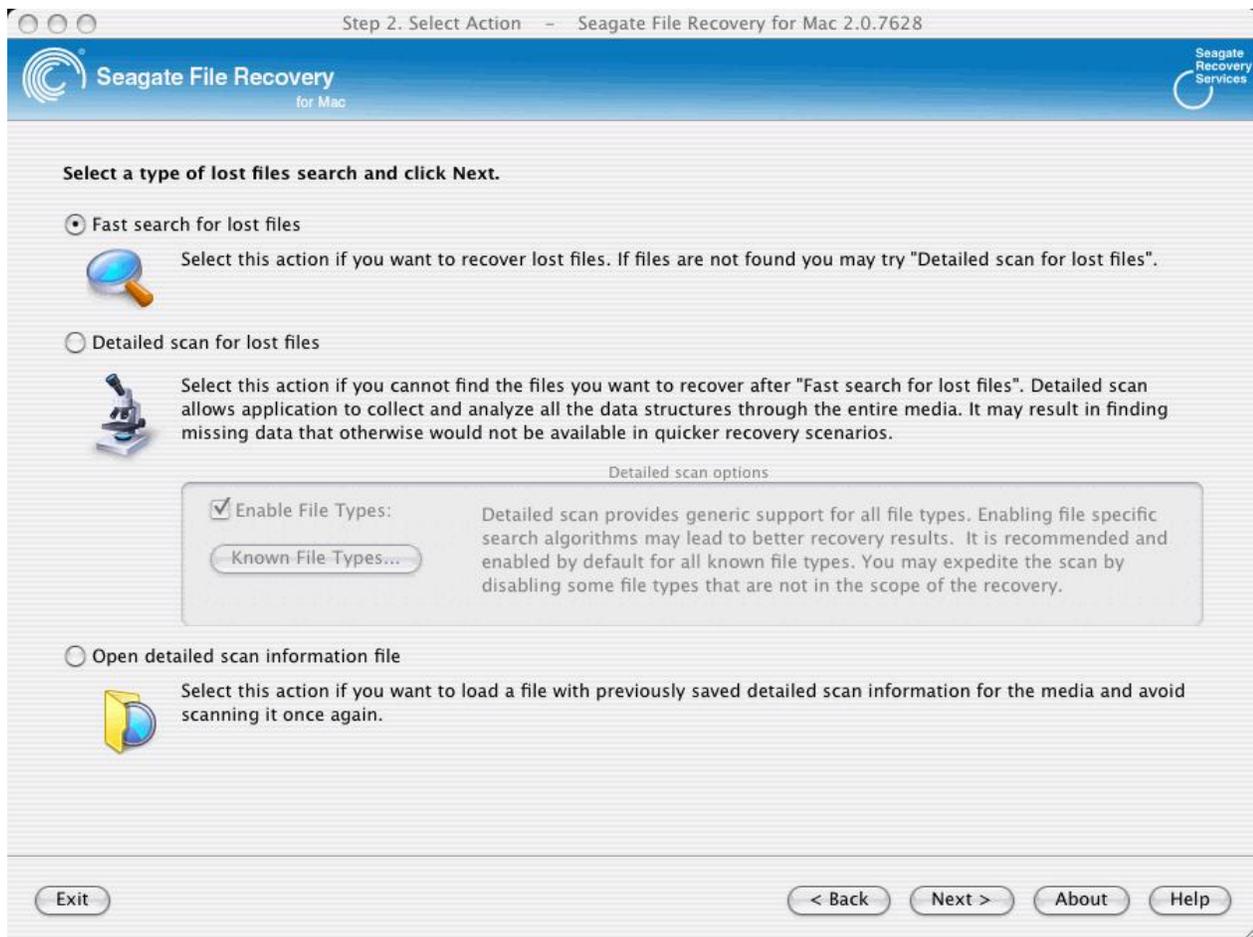
- 1 **Select the logical disk on the Seagate File Recovery for Mac** Step1. Select disk and click the **Next button**

Step1. Select disk *panel*



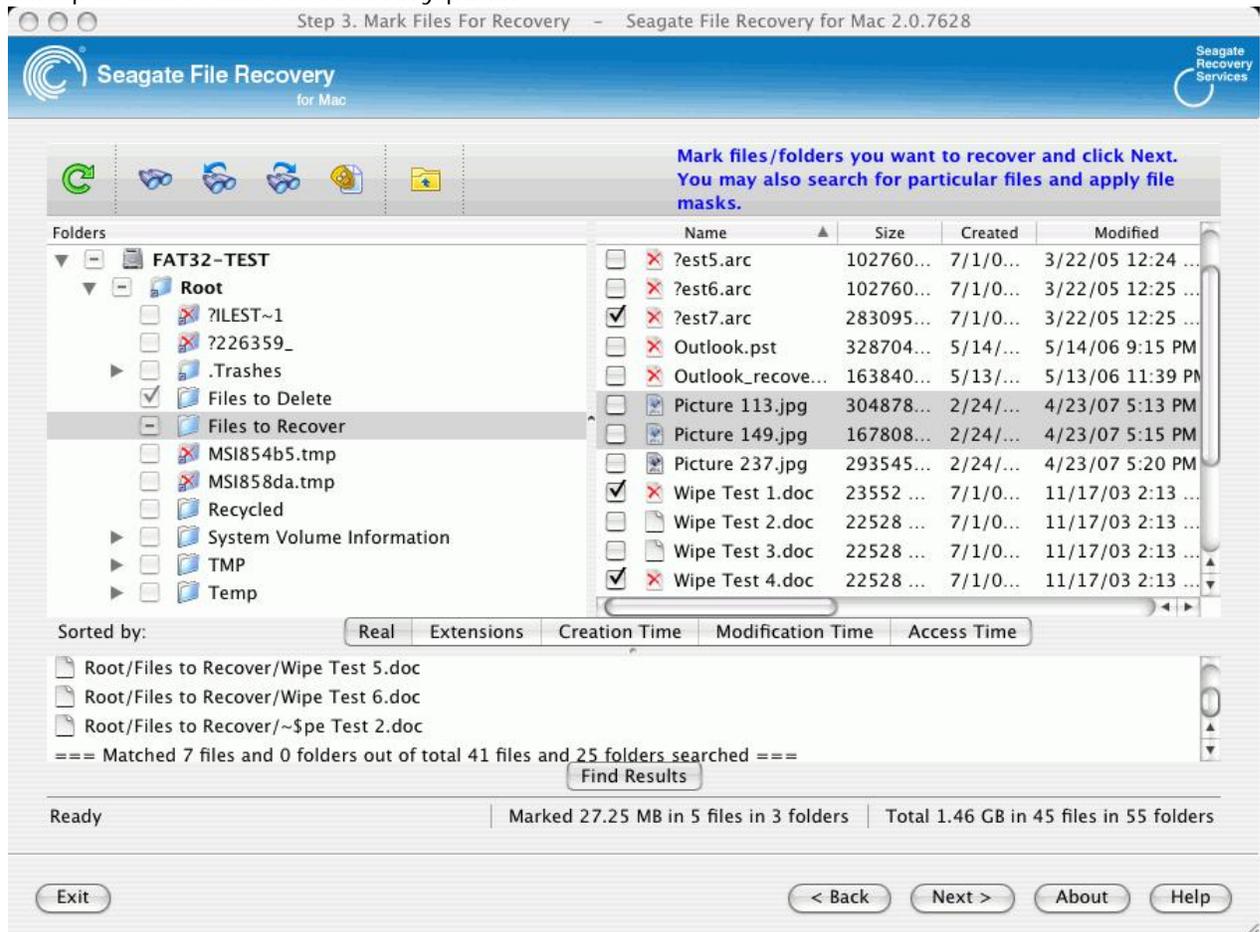
- 2 **Select Fast search for lost files on the** Step 2. Select action **panel** and click the **Next button**

Step 2. Select action *panel*



- > **Seagate File Recovery for Mac will change its panel showing the disk's folders/files structure**
- Seagate File Recovery for Mac** analyzes data on the disk and displays all files which records have been found. Then deleted files, which records still remain, can be recovered. If files have not been found, that means that their records have been deleted. To find such files, [Detailed Scan for Deleted Files](#) is required.
- Please note that **Seagate File Recovery for Mac** shows only those files/folders that match a specified [file mask](#).

Step 3. Select files for recovery panel



Panel view options

You may select which columns will be shown on the Contents pane. Control-click the table header and select the required ones. You may also arrange the data as required. Select the required arrangement under the Mark files for recovery panel.

Buttons



Reopen Drive Files

Click this button to list files again.



Find

Click this button to find a particular file/folder.

Seagate File Recovery for Mac searches for files only among files specified by a **File Mask**.



Find Next

Click this button to find the next object specified in the **Find** dialog window.



Find Previous

Click this button to the find previous object specified in the **Find** dialog window.

**File Mask**

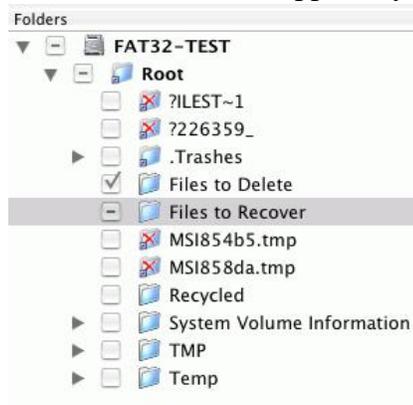
Click this button to specify a file mask.

**Up**

Click this button to move highlighting one folder up.

Folders panel

<input type="checkbox"/>		Repository	Deleted folder
<input checked="" type="checkbox"/>		Rel...	Marked folder (all child objects in this folder are marked)
<input type="checkbox"/>		Mac	Partially marked folder (some child objects in this folder are marked)
<input type="checkbox"/>		Helsinki	Cross-linked deleted folder (A FAT folder containing data which also belongs to other FAT folders.)
<input type="checkbox"/>		?144718_	Questionable Cross-linked deleted folder (A FAT folder found by Seagate File Recovery for Mac , but with apparently invalid content.)



You may also arrange the data as required: by their extensions, creation/modification time, or as a real file structure



try to find them by using file search globally on the entire disk. Go to the [Searching for a File](#) topic for details

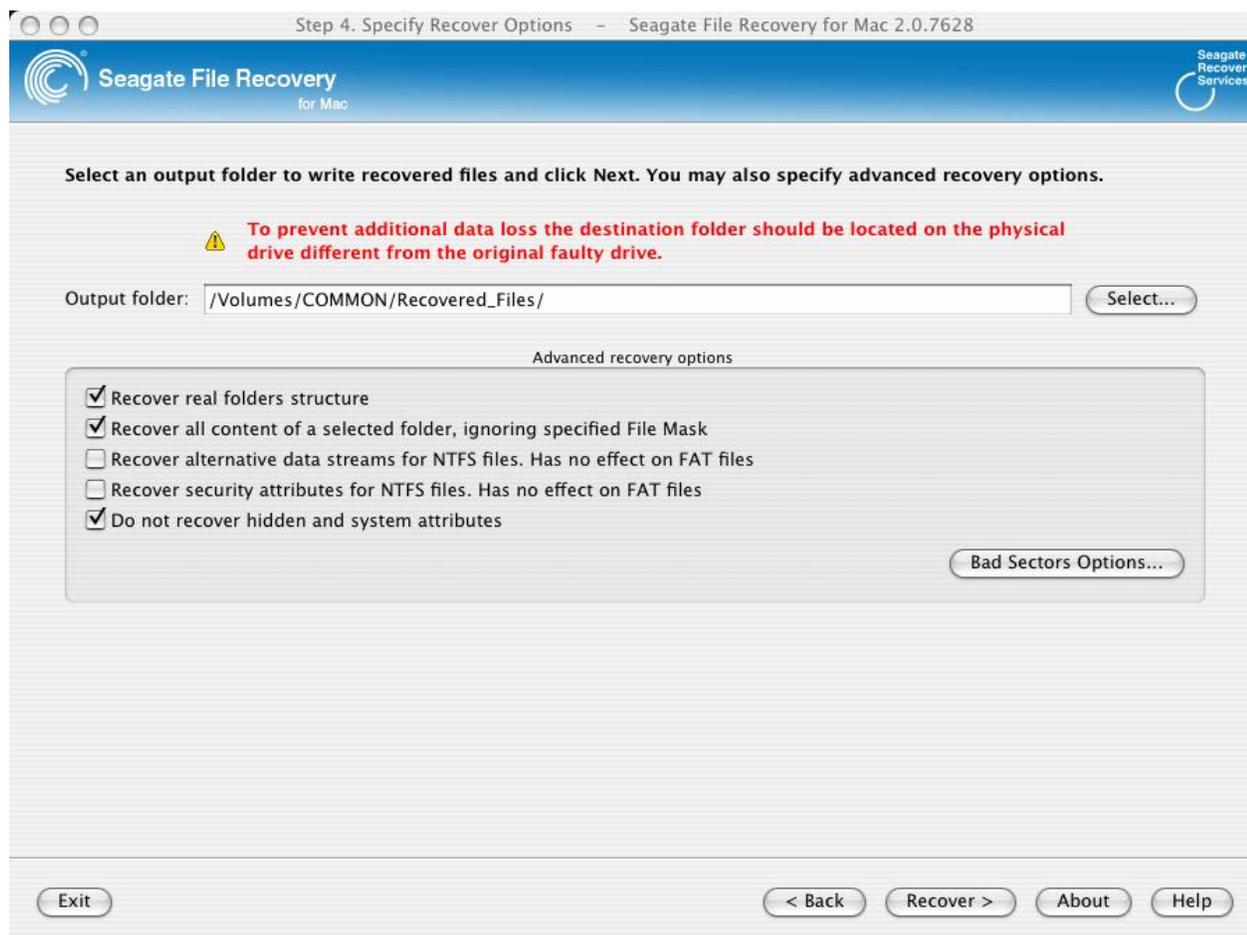
If you still cannot find files that you want to recover but are sure they have existed on the logical disk, you need to use [Detailed Scan for Deleted Files](#) to find them.

- 4 **Specify recover options and output folder on the Step 4. Select place for recovered files panel and click the OK button**

NEVER TRY TO SAVE RECOVERED FILES/FOLDERS TO THE SAME LOGICAL DISK WHERE THEY RESIDE!!!

Or you may obtain unpredictable results and lose all of your data.

Step 4. Select place for recovered files **panel**



Recover options

Recover real folders structure	Enabled when the files are sorted by their extensions or date. If this check box is selected, Seagate File Recovery for Mac recovers the real folders/files structure on the disk rather than that of sorted files.
Recover all content of a selected folder, ignoring specified File Mask	If this check box is selected, Seagate File Recovery for Mac recovers all content of selected folder(s), ignoring specified File Mask .
Recover alternative data streams for NTFS files. Has no effect on	If this check box is selected, Seagate File Recovery for Mac

FAT files	recovers alternative data streams for NTFS files. Has no effect on FAT files. See Extended Information Recovery for details.
Recover security attributes for NTFS files. Has no effect on FAT files	If this check box is selected, Seagate File Recovery for Mac recovers security attributes for NTFS files. Has no effect on FAT files. See Extended Information Recovery for details.
Do not recover hidden and system attributes	If this check box is selected, Seagate File Recovery for Mac will remove the Hidden and System attributes from recovered files enabling the user to see them in the Windows Explorer.
Bad Sectors Options	You may specify how to process files with bad sectors. You may specify the number of attempts to read the bad sectors and a pattern to fill the bad block.

Bad Sectors *dialog box*



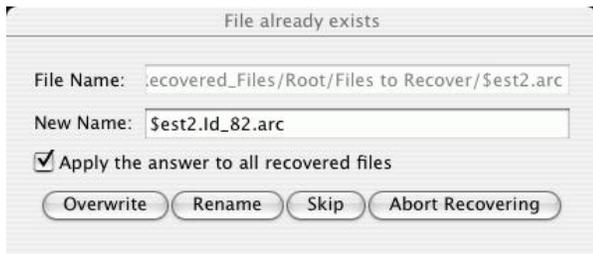
If you try to specify the same disk for the recovered files on which the deleted files resided, the It is recommended to restore files... message will appear. You may continue recovering the files on such disk, but at your own risk.



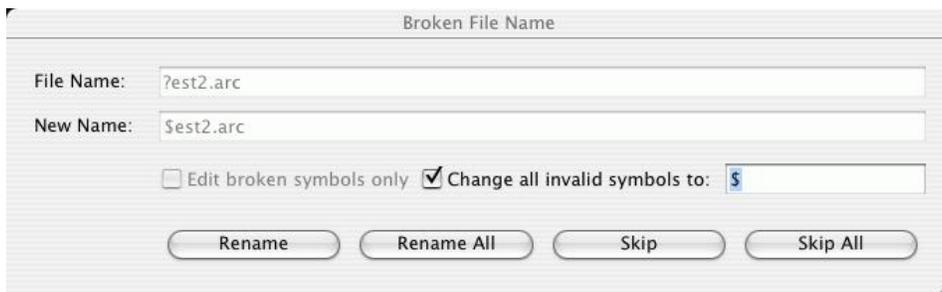
- > **Seagate File Recovery for Mac will recover the selected/marked files/folders to the specified folder**

Step 5. Recovery status panel will show the results.

If there are file(s) with the same name in the output folder, the File already exists dialog box will appear. You may overwrite, rename, skip the file, or abort recovery.

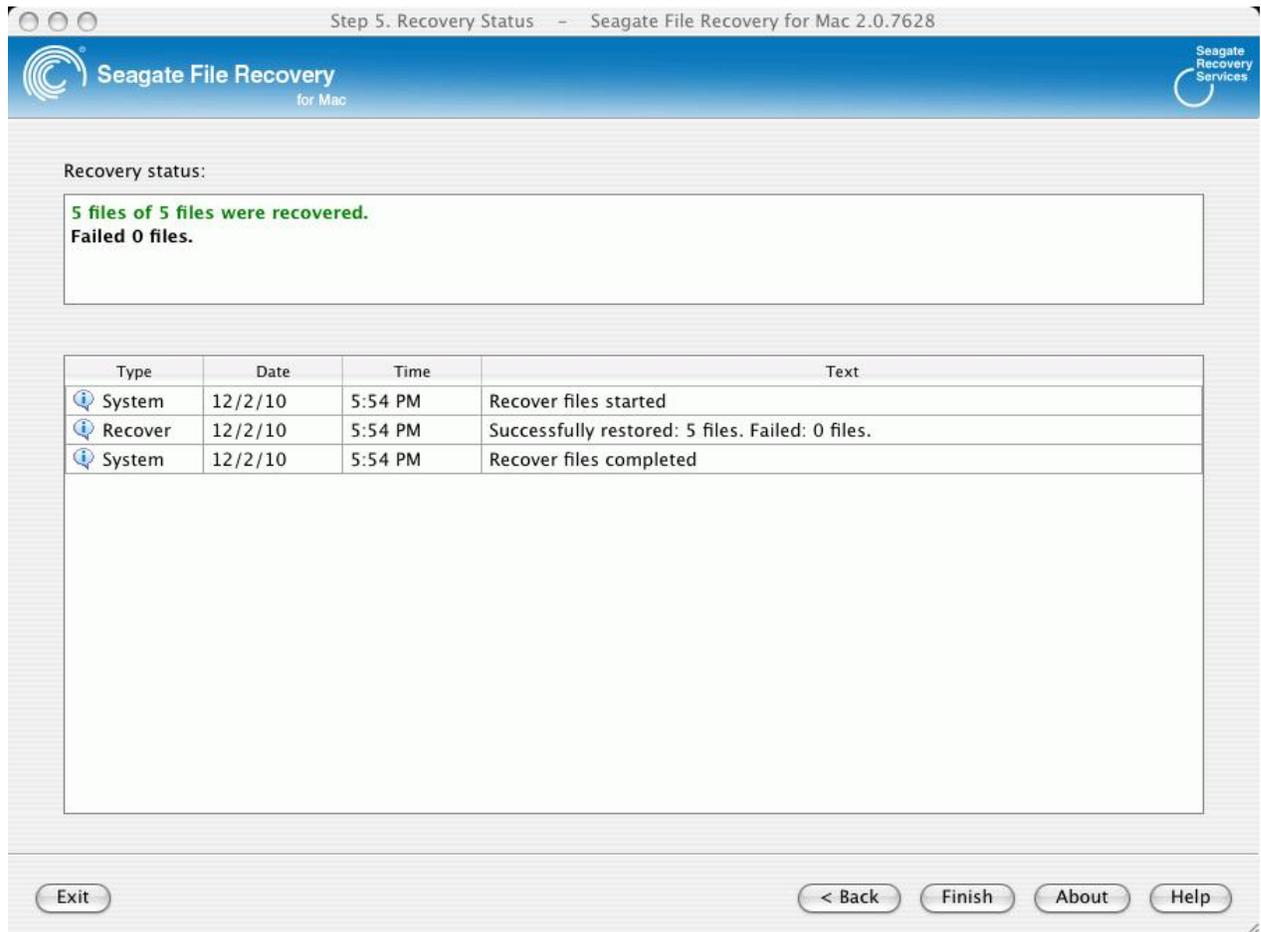
File already exists *dialog box*

If a file to be recovered appears to have an invalid name, a Broken File Name dialog box will appear. You may correct the name and resume file recovery.

Broken File Name *dialog box*

☐ **Broken File Name options**

File name	Shows the current incorrect file name.
New name	Field for a new file name.
Edit broken symbols only	If this check box is selected, only invalid symbols may be corrected
Change all invalid symbols to	If this check box is selected, all invalid symbols will be changed to the specified symbol
Buttons	
Rename	Click to resume file recovery
Rename All	Click to resume file recovery. All other files will be renamed according to the specified rule.
Skip	Click to skip this file
Skip All	Click to skip all files and stop file recovery

Step 5. Recovery status *panel*

Click the **Finish** button to return to the Select the disk to recover files from panel or **Exit** to quit **Seagate File Recovery for Mac**.

[Searching for a File](#)[File Masks](#)[Regular Expressions](#)[Previewing Files](#)

2.1.1 Searching for a File

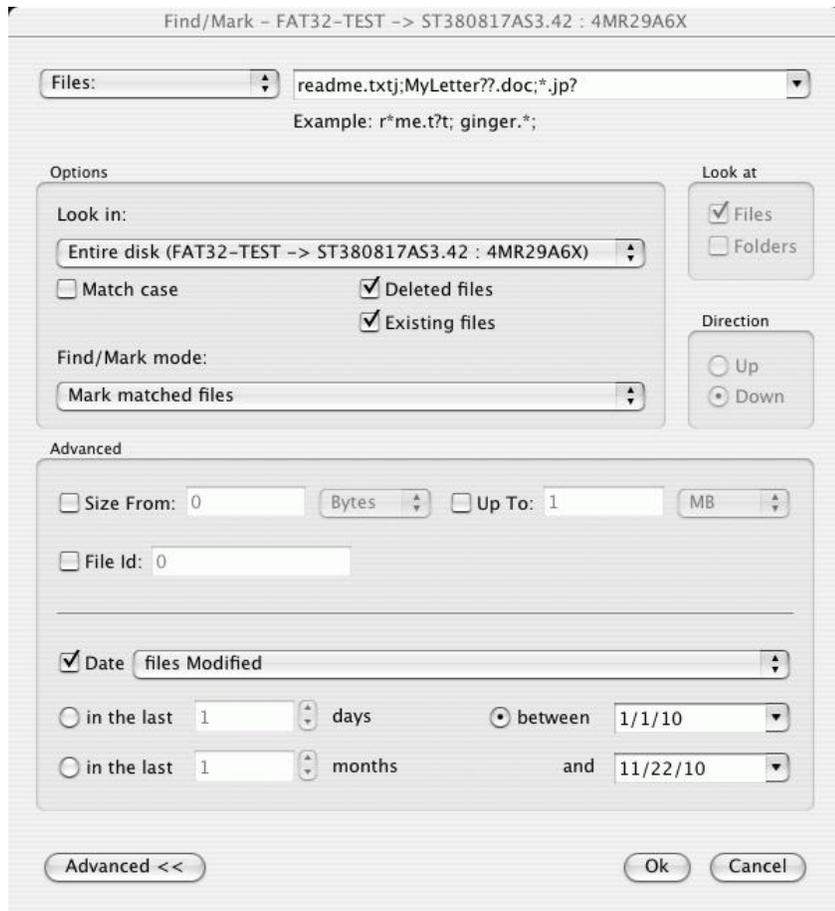
Seagate File Recovery for Mac can find a particular file, if it is difficult to find it manually on the Folders or Files panel. You can also automatically mark/unmark all found files.

To search for a file,

- 1 Click the Find button
- 2 Specify a file to be found and its options on the Find dialog box, and click the OK button

Note that a [File Mask](#) may be applied.

Find/Mark *dialog box*



Find/Mark options

You may specify how to treat specified strings. Please note that **Seagate File Recovery for Mac** stores previously entered search strings.

Files	If this option is selected, Seagate File Recovery for Mac treats specified strings as file names. Use ? for one unspecified character and * for an unlimited number of them to specify file masks.
File Extensions	If this option is selected, Seagate File Recovery for Mac treats specified strings as file extensions
Regular Expressions	If this option is selected, Seagate File Recovery for Mac treats specified strings as regular expressions
All Files	If this option is selected, Seagate File Recovery for Mac applies Advanced Options to all files.
Options	
Match case	If this check box is selected, Seagate File Recovery for Mac makes a case-sensitive search
Look in	Specifies where Seagate File Recovery for Mac searches for, and marks, files. It can look for them on the Entire disk, From current folder, In the Current folder and subfolders, and in the Current folder only. If From current folder is selected, you may also specify the Direction for the search from the current position in the current folder.

Deleted files	If this check box is selected, Seagate File Recovery for Mac makes a search among deleted files/folders.
Existing files	If this check box is selected, Seagate File Recovery for Mac makes a search among existing files/folders.
Find/Mark mode	Specifies what Seagate File Recovery for Mac does with the found files. It may: Find all matched files. Seagate File Recovery for Mac searches for all files that match the search criteria. The search results appear on the Find Results panel. Find first matched file. Seagate File Recovery for Mac stops at the first found file. Mark matched files. Seagate File Recovery for Mac marks all found files. Unmark matched files. Seagate File Recovery for Mac unmarks all found files. Please note, that when performing a new find and mark/unmark task, Seagate File Recovery for Mac does not take into consideration the previous marked/unmarked state of files. For example, if you first mark all doc files, and then all txt files, all doc files remain marked, too. To unmark them, you should specify doc once again and select Unmark matched files.
Look at	
Files	If this check box is selected, Seagate File Recovery for Mac includes files into a search.
Folders	If this check box is selected, Seagate File Recovery for Mac includes folders into a search.
Direction	Specifies search direction from the current position. Available only if From current folder is selected in Look in.
Advanced Options	
Size from/up to	Specifies file size limits.
File Id	Specifies File Id that Seagate File Recovery for Mac assigns to a file.
Date	Specifies file date boundaries. Files may be Modified/Created/Last Accessed.

> **Seagate File Recovery for Mac will show/mark the found file(s) on the Find Results panel.**

To repeat the search,

* Click the Find Next or Find Previous buttons

> **Seagate File Recovery for Mac will show the found files on the Find Results panel**

2.1.2 File Masks

Seagate File Recovery for Mac shows only those files/folders that match the specified file mask. File mask affects files/folders that are processed by the **Recover** and **Find** commands.

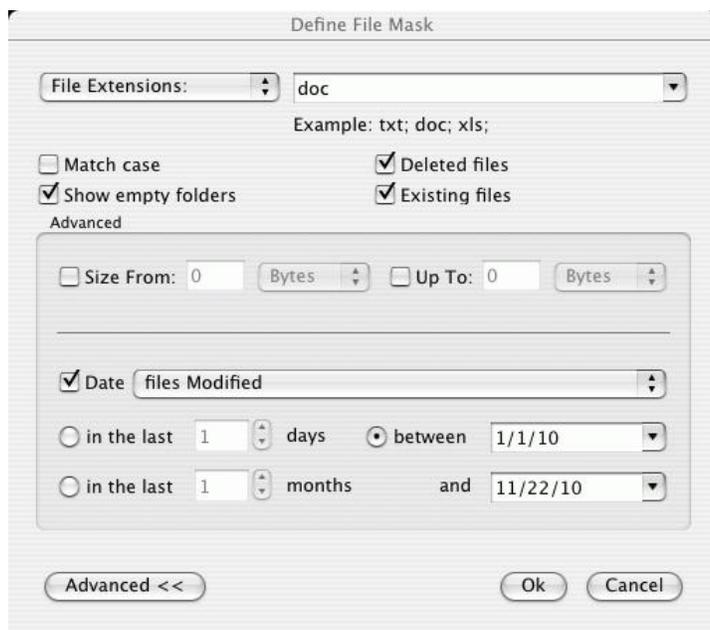
To specify a file mask,

1 Click the File Mask button, or

Control-click a folder and select **File Mask** on the context menu

2 Specify the file mask on the File mask dialog box and click the OK button

Mask dialog box



File mask options

You may specify options for All Files, File Extensions, Files, and Regular Expressions	
Match case	If this check box is selected, Seagate File Recovery for Mac makes a case-sensitive search.
Show empty folders	If this check box is selected, Seagate File Recovery for Mac will show folders with no files matching the mask.
Deleted files	If this check box is selected, Seagate File Recovery for Mac makes a search among deleted files/folders.
Existing files	If this check box is selected, Seagate File Recovery for Mac makes a search among existing files/folders.
Advanced Options	
Size from/up to	Specifies file size limits.
Date	Specifies file date boundaries. Files may be Modified/Created/Last Accessed.

> **Seagate File Recovery for Mac will show only those files that match the specified file masks**

2.1.3 Previewing Files

Seagate File Recovery for Mac has a built-in file previewer that allows you to preview both existing and deleted files. You may use this feature to estimate recovery or a file to be recovered.

To preview a file

1 **Double-click the file on the Contents panel**

> **Seagate File Recovery for Mac will show the content of the file**

If the previewer cannot recognize the format, the Preview of the file is unavailable... message will appear and the file will be opened in the [Hex viewer](#).



▣ **List of supported file formats**

MS Office files: Word documents and Excel spreadsheets (**Microsoft Office** and **Excel** should be installed)

Video/Audio files: With proper software and codecs installed in the system

Graphic files:

Format	Extension	Compression
Adobe Photoshop Document	psd	
Amiga IFF	iff blk	Rle
CompuServe GIF	gif giff	
Dr. Halo files	cut pal	
Microsoft DirectDraw Surface texture file	dds	
OpenEXR Bitmap	exr	
Apollo HDRU	hdr	
Gimp Icon	ico	
Imaging Fax	g3n	
Joint Bi-level Image Group File	jbig	
Joint Photographic Experts Group	jpg jpeg jif jfif	
JPEG Network Graphic Bitmap	jng	
KOALA files	koa koala	
Kodak Photo CD	pcd	
Multiple Network Graphics	mng	
OS/2 Bitmap	bmp bga	Rle 4 & 8 bits
Portable Bitmap	pbm rpbm	
Portable Greyscale	pgm rpgm	
Portable Image	pnm rpnm	
Portable Network Graphics	png	
Portable Pixmap	ppm rppm	
Silicon Graphics RGB	rgb bw iris sgi	Rle
Sun Raster Images	ras rast sun sr scr rs	
Sun TAAC file format	iff vff suniff taac	
TIFF Revision 6	tif tim tiff	Rle LZW LZW + Prediction
TrueVision Targa	tga pix bpx vda icb vst	Rle
!Windows Bitmap	bmp rle r14 r18 sys	Rle 4 & 8 bits
Wireless Bitmap (level 0)	wbmp wbm wap	

X11 BitMap	xbm bm	
X11 PixMap	xpm pm	
Zsoft Publisher's Paintbrush	pcx pcc dcx	Rle

2.1.4 Regular Expressions

Regular expression is a notation for patterns of text, as opposed to exact strings of characters. The notation uses literal characters and metacharacters. Every character which does not have special meaning in the regular-expression syntax is a literal character and matches an occurrence of that character. For example, letters and numbers are literal characters. A metacharacter is a symbol with special meaning (an operator or delimiter) in the regular-expression syntax.

.	Wildcard: any character
*	Repeat: zero or more occurrences of previous character or class
^	Line position: beginning of line
\$	Line position: end of line
[class]	Character class: any character in the set
[^class]	Inverse class: any character not in the set
[x-y]	Range: any characters within the specified range
\x	Escape: literal use of metacharacter x
\<xyz	Word position: beginning of the word
xyz\>	Word position: end of the word

For example, the following regular expression `.*` matches any string of characters, `^a` matches any string beginning with character a.

2.1.5 Detailed Scan for Deleted Files

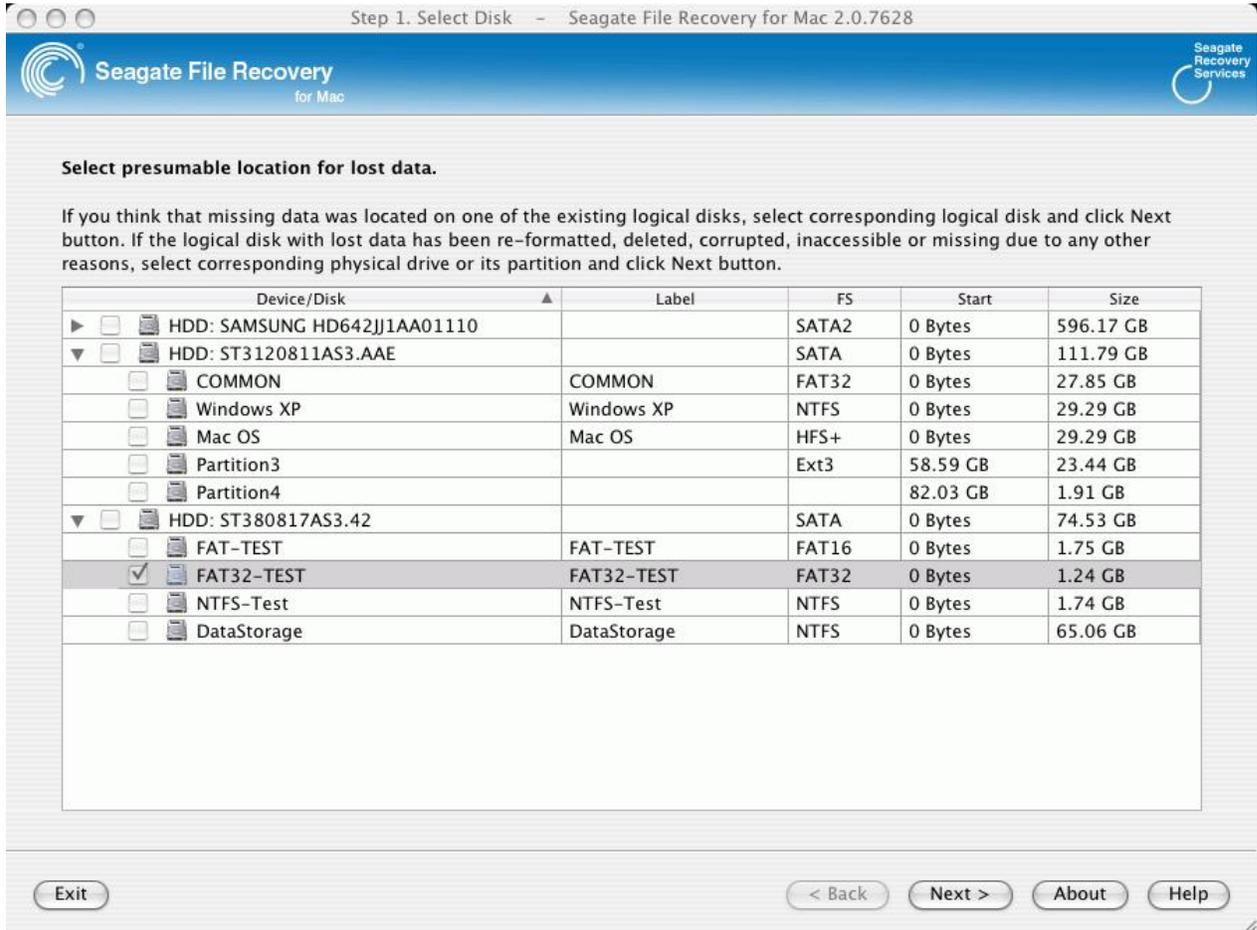
If you did not find your lost file through the [fast search for lost files](#), you need to perform the detailed scan for deleted files for them. Sometimes, this procedure is called "Disk scan". During this process, **Seagate File Recovery for Mac** completely analyzes data structure on the logical disk and may find deleted files that do not appear file enumeration.

Attention: Performing a detailed scan for deleted files on large objects may be a very lengthy process!

To perform a detailed scan for deleted files for files on a logical disk:

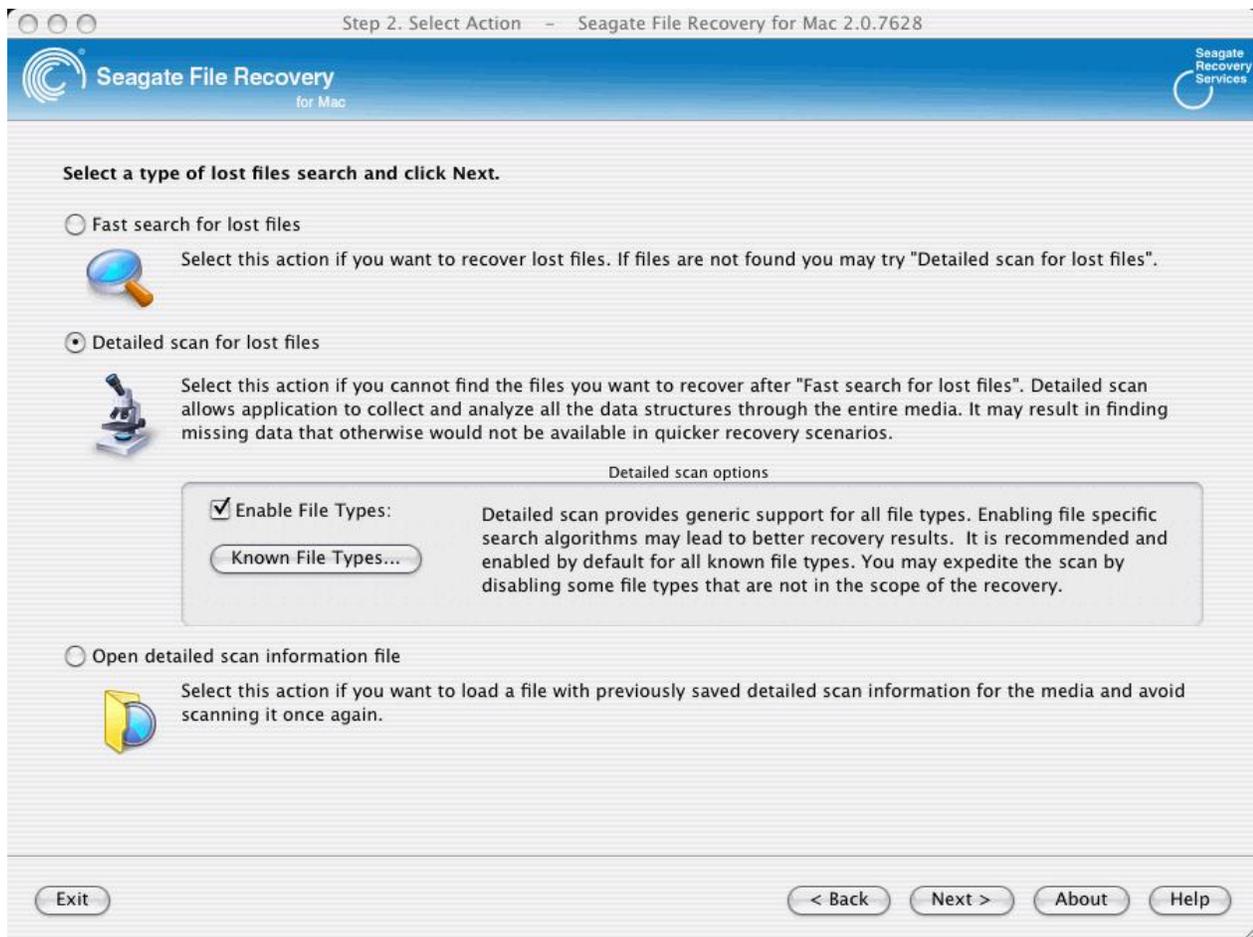
- 1 **Select the logical disk on the Seagate File Recovery for Mac Step 1.** Select disk panel and click the **Next button**

Step1. Select disk *panel*



- 2 **Select Detailed scan for lost files on the Step 2.** Select action panel and click the **Next button**

Step 2. Select action *panel*



Known File Types:

While performing a detailed scan for deleted files, **Seagate File Recovery for Mac** can recognize the data's particular file type. Using such information, **Seagate File Recovery for Mac** can obtain more information about data/file structure on the object being searched. By default, **Seagate File Recovery for Mac** tries to recognize all supported file types, greatly increasing time required for the search. You may reduce it by selecting only those file types that you need. Click the **Known File Types...** button on the Data Recovery Action panel and select the required file types on the File Types dialog box.

File Types dialog box



List of known file types

* By default, files of this type are not selected. If necessary, select them manually			
Document			
AbiWord Document: .abw	Adobe PDF document: .pdf	Final Draft Document: .fdr	FrameMaker Document: .fm
Garmin MapSource data: .mps	GNU Info Document: .info	HTML Document: .html	Lotus AMI Pro Document: .sam
Lotus Organizer Report: .rep	Lotus Word Pro Document: .lwp	Microsoft Money Data: .mny	Microsoft Office Open XML Document *
Microsoft OneNote section file: .one	Microsoft Pocket Streets Map File: .mps	Microsoft PowerPoint 2007 XML Document*: .pptx	Microsoft PowerPoint Document*: .ppt
Microsoft Reader eBook: .lit	Microsoft Reader eBook annotations: .ebo	Microsoft Word 2007 XML Document*: .docx	Microsoft Word Document*: .doc
Microsoft Word2 Document: .doc	Microsoft WordPad Document: .wri	OLE Storage	OpenDocument Document
PostScript document*: .ps	QuickBooks Backup File: *.qbb	QuickBooks Primary Data File: *.qbw	Quicken Data: *.qdf
Rich Text Document: .rtf	TEX Document: .tex	Text Document: .txt	TurboTax return file: .tax
Unicode Document: .txt	Word for Macintosh Document: .mcw	WordPerfect Document: .doc	XML Document: .xml
Document: Spreadsheet			
Lotus Spreadsheet: .wks	Lotus3 Spreadsheet: .wk3	Microsoft Excel 2007 XML Document*: .xlsx	Microsoft Excel Document*: .xls
Microsoft Excel2 Spreadsheet: .xls	Microsoft Excel3/4 Spreadsheet: .xls	Quattro Pro Spreadsheet: .wq1	
Document: Database			
Data Interchange Format	dBase III Database: .	Microsoft Access 2007	Microsoft Access

file: .dif	dbf	Database: .accdb	2007 XML Document: .accdt
Microsoft Access Database: .mdb	Microsoft Linker Database: .lk	Microsoft Program Database: .pdb	Microsoft SQL Database: .mdf
Microsoft SQL Log: .ldf	MySQL Database: .myi	Omnis Studio Database: .df1	Omnis Studio Library: .lbs
Internet-related files			
Compiled HTML file: .chm	Internet shortcut: .url	Microsoft Outlook Personal Folder: .pst	Microsoft Outlook/Inbox offline folder: .ost
Mozilla Firefox browser extension: .xpi	Mozilla Mail Summary file: .msf	Outlook Express Messages: .dbx	The Bat! Address book: .abd
The Bat! Message Base: .tbb	The Bat! Message Index: .tbi	Windows Address Book: .wab	XML document (Unicode): .xml
Font			
Adobe PostScript Font: .pfb	Adobe Printer Font: .pfm	BDF Unix font	BGI font: .chr
CPI DOS font: .cpi	MyTest Font: .mtf	TrueType Font: .ttf	Windows System Font: .fon
Graphics/Picture			
3D XML file: .3dxml	3DStudio Mesh: .3ds	Adobe InDesign File: .indd	Adobe Photoshop Image: .psd
Agfa/Matrix Scodl Image: .scd	Alias Wavefront Raster Image: .rla	ArcView Shape: .shp	AutoCAD Binary Image: .dxf
AutoCAD Drawing: .dwg	AutoCAD Image: .dxf	Autodesk Animator Image: .pic	Autodesk Animator Pro color map: .col
Autodesk Animator Pro Image: .pic	Autologic Image: .gm	AVHRR Satellite Image: .sst	Bentley MicroStation CAD Drawing: .dgn
BMF Image: .bmf	Canon RAW graphics file: .crw	Canon RAW graphics file*: .cr2	Canon RAW graphics file: .crw
ColorIX Image: .rix	CompuServe GIF Image: .gif	ComputerEyes Raw Image: .cel	Continous Edge Graphic Image: .ceg
Corel Texture Image: .tex	CorelDraw CMX Image: .cmx	CorelDraw Image: .cdr	Cubicomp Picture Maker Image
Dr. Halo palette: .pal	Enhanced MetaFile Image: .emf	Epson Stylus Image: .prn	Erdas LAN/GIS Image: .lan
Fractal Image Format: .fif	Freehand (MX) Database: .fh10	GEM Raster Image: .img	GEM VDI Image: .gdi
GOES Satellite Image: .goe	Graphics Workshop for Windows Thumbnail: .thn	Gridded Binary Image: .grb	Hitachi Raster Image: .hrf
Hotspot Image: .shg	HP Command Language Image: .pcl	HP Raster Image: .rtl	HSI JPEG Image: .hsi
IBM Picture Maker Image: *.pic	iPhoto Image: .attr	Jovian Logic Image: .vi	JPEG 2000: .jp2

JPEG Digital Camera*: .jpg	JPEG Image: .jpg	Kodak PhotoCD Image: .pcd	LBM/IFF Image: .lbm
Lightwave Object: .lwo	Lotus PIC Image: .pic	Macintosh Paint Image: .mac	Macintosh PICT Image: .pct
Microsoft Paint Image: . msp	Minolta RAW image: . mrw	Nikon RAW image*: . nef	Olympus RAW image: .orf
PaintShop Pro Image: . psp	PaperPort Image: .max	PBM Image: .pbm	PGM Image: .pgm
Pictor PC Paint Image: . pic	PIX Image: .pix	PM Image: .pm	PNG Image: .png
PPM Image: .ppm	Print Shop Image: .pds	QuarkXpress Database: .qxp	QuarkXPress file: . qxd
Quick Link II fax Image: .qfx	QuickDraw 3D Metafile: .3dmf	RenderMan Image: . rib	SGI Image: .sgi
Sigma RAW image: . x3f	Sketch Image: .sk	SmartDraw file: .sdr	SmartDraw template: . sdt
Sony RAW image: .arw	STAD Image: .pac	Sun Raster Image: .sun	SymbianOS Image: . mbm
Tagged Image Format File: .tif	TI Image: .92i	TrueVision Image: .tga	Utah Raster Toolkit Image: .rle
VITec Image: .vit	Windows Animated cursor: .ani	Windows Bitmap Image: .bmp	Windows cursor: .cur
Windows Fax Cover Image: .cpe	Windows icon: .ico	Windows MetaFile Image: .wmf	WordPerfect Graphics Image: .wpg
X PixMap Image: .xpm	X Window Dump Image: .xwd	Xara Drawing: .xar	ZSoft PCX Image: . pcx
Multimedia: Audio Files			
Advanced Streaming Format file: .asf	AIFF Sound: .aif	Amusic tracker: .amd	aPac Audio: .apc
AudioCD file: .cda	AVR Sound: .avr	CMF Music: .cmf	Creative Voice File: . voc
DiamondWare Sound: . dwd	Digital Speech File: . dss	Digital Voice File: .dvf	EA ASF/MUS Audio: .asf
Extended M3U playlist: .m3u	FLAC Audio	La Lossless Audio: .la	Liquid Audio: .lal
MIDI Instrument definition: .idf	MIDI Music: .mid	MIDI stream: .mids	Monkeys Audio: .ape
MPEG Layer I Audio: . mpg	MPEG Layer II Audio*: .mp2	MPEG Layer III Audio*: .mp3	MUS Music: .mus
Musepack Audio: .mpc	Next/Sun Sound: .au	Ogg Vorbis Audio: . ogg	OptimFROG Audio: . ofr
RIFF MIDI Music: . rmi	RK Audio Sound: .rka	Sierra AUD Sound: . aud	Sony OpenMG Audio: .oma
Super NES Audio: .spc	TTA Audio: .tta	VQF Sound: .vqf	WavPack Audio: .wv
Westwood AUD Sound: .aud	Windows Audio Compression Manager	Windows Media Audio: .wma	Windows WAVE Sound: .wav

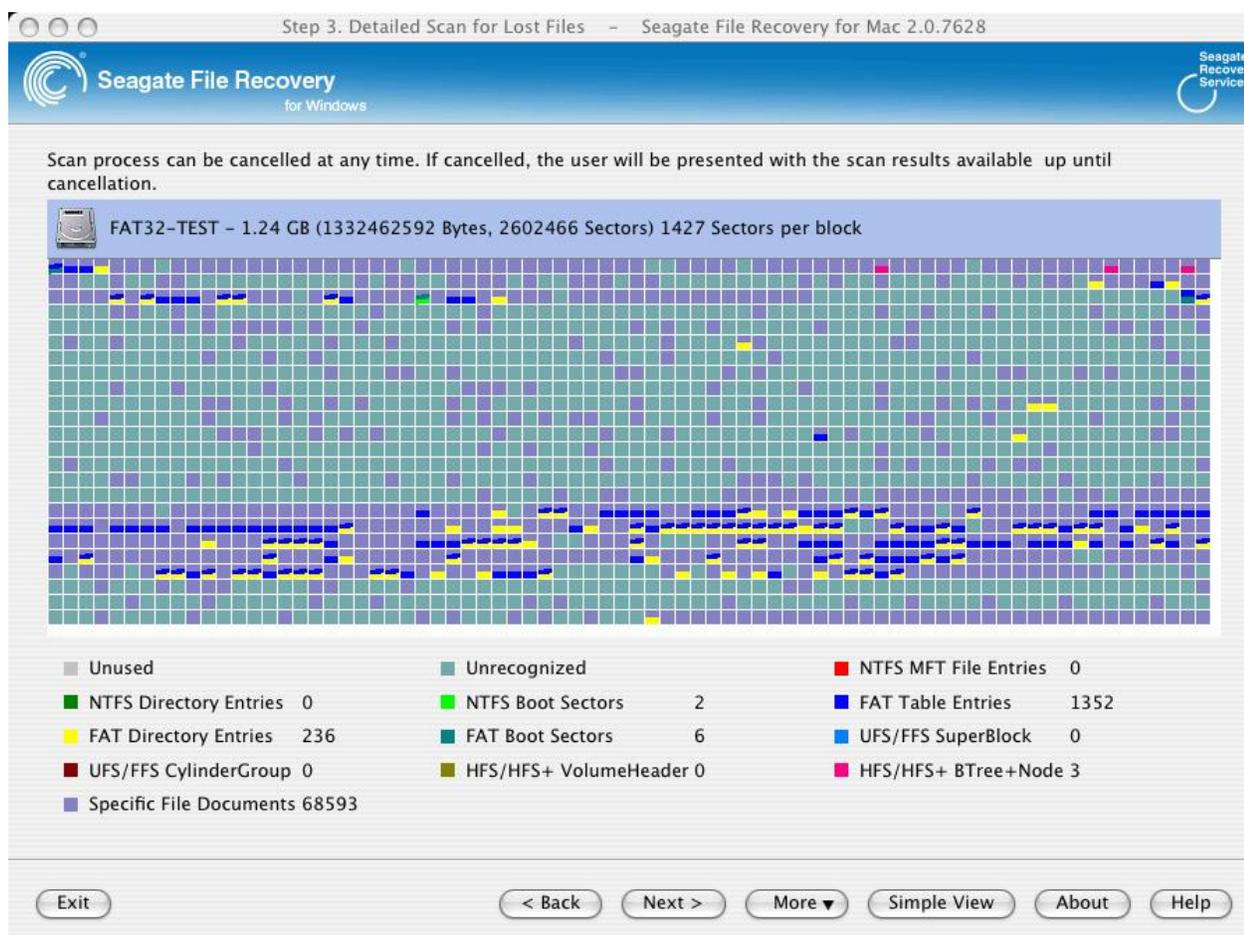
	driver: .acm		
X-MIDI Music: .xmi	ZyXEL Sound: .zyx		
Multimedia: Video Files			
3GPP multimedia audio/video: .3gp	3GPP2 multimedia audio/video: .3g2	4X Movie Video: .4xm	Adobe Filmstrip Animation: .fsf
AMV Video: .amv	ANIM Animation: .cel	Autodesk Animator: .fli	BCS Video: .bcs
BINK Video: .bik	DeluxePaint Animation: .anm	Director Video: .dcr	DriveCam Video: .dce
DVM Video: .dvm	Eyemail Video: .eye	Flash Video: .flv	Google Video: .gvi
Intel DVI Video: .dvi	Intel Indeo Video File: .ivf	Interplay MVE Video: .mve	Lotus ScreenCam Video: .scm
LZA Animation: .lza	MPEG Video: .mpg	Nancy Codec Video: .noa	NEOchrome Animation: .ani
Nullsoft Video: .nsv	NuppelVideo (MythTV) Video: .nuv	QuickTime Video: .mov	QV-10 Video: .cam
RPL Video: .rpl	Sega FILM/CPK Video: .cpk	SGI movie format: .mv	Shockwave Video: .swf
Smacker Video: .smk	SMJPEG Video: .mjpg	Sony Movie Player Video: .mqv	VideoCD MPEG: .dat
VideoCD Video: .vcd	Vivo streaming Video: .viv	VOB video files: .vob	VP6 encoded Video: .vp6
Windows AVI Video: .avi	Windows Media Video: .wmv		
Multimedia Files			
Material Exchange File: .mxf	MP4 file: .mp4	Real Networks audio/video: .rm	RIFF Multimedia File
Archive Files			
7-Zip archive: .7z	ACE archive: .ace	AIN archive: .ain	ARJ archive: .arj
ARX archive: .arx	Aladdin Systems StuffIt archive: .sit	BAG archive: .bag	BIX archive: .bix
BOA archive: .b58	BZip2 archive: .bz2	BlackHole archive: .bh	Blink archive: .bli
CPIO archive: .cpio	CRUSH archive	ChArc archive: .chz	Compress archive: .z
FOXSQZ archive: .sqz	GZip archive: .gz	HA archive *: .ha	HAP archive: .hap
HPACK archive: .hpk	Hyper archive: .hyp	InstallShield Cabinet archive: .cab	InstallShield Data archive: .z
InstallShield archive	JAM archive: .jam	JAR archive: .jar	JRC archive: .jrc
LHA/LZARK archive: *.lzh	LIMIT archive: *.lim	LZA archive: *.lza	LZOParchive: .lzo
LZSH archive	LZX archive: .lzx	Microsoft Cabinet archive: .cab	Microsoft Compress 5 archive
Microsoft Compress 6 archive	PAKLEO archive: .pl1	Pack archive *	QFC archive: .qfc
Quantum archive *: .ark	Quark archive	RAR archive: .rar	RPM archive: .rpm

ReSOF archive: .sof	SAR archive: .sar	SBC archive: .sbc	SCO archive *
SQZ archive: .sqz	SZip archive	Stuftt archive: .sit	TAR archive: .tar
UFA archive: .ufa	UHarc archive: .uha	UltraCompressor 2 archive: .uc2	UltraCrypt 2 archive: .ue2
WIN-Freeze archive*: .ice	WRaptor archive: .wra	WinImp archive: .imp	YAC archive: .yc
YBS archive: .ybs	ZIP archive: .zip	ZOO archive: .zoo	ZZip archive: .zz
Apple Safari Web Archive: .webarchive	Microsoft Internet Explorer Web Archive: .mht	R-Drive Image Archive: .arc	R-Drive Image V1 Archive: .arc
WinImage Archive: * .imz			
Executable/Library/DLL			
DOS Style Executable: .exe	ELF Executable (UNIX)	ELF Library (UNIX)	ELF Module (UNIX)
Java Bytecode: .class	Novell NetWare executable: .nlm	RDOFF executable	Win32 DLL*: .dll
Win32 Executable*: .exe	Windows OCX File: .ocx		
Development files			
Borland Delphi 6 Library: .dcu	Borland Turbo Pascal compiled Unit: .tpu	COM Type Library: .tlb	Delphi 7 Compiled Unit: .dcu
Library: .lib	Microsoft .NET XML Resource template: .resx	Microsoft ClassWizard file: .clw	Microsoft Linker database
Microsoft Precompiled header: .pch	Microsoft Visual C++ Database: .mdp	Microsoft Visual Studio Database: .dsp	Microsoft Visual Studio Solution: .sln
Microsoft Program database	Microsoft Visual C++ project		Microsoft Visual Studio workspace: .dsw
OMF Object library: .lib	VisualBasic Database: .vbp	Windows Compiled resource (16bit) *: .res	Windows Compiled resource (32bit): .res
Other file types			
ABBYY Lingvo dictionary: .lsd	File Crypt file: .rzx	Kaspersky Anti-virus data base: .avc	NOD32 Antivirus Update file: .nup
OziExplorer Map data: .map	RegEdit file: .reg	RegEdit file (UNICODE): .reg	Windows Backup File: .bkf
Windows Clipboard file: .clp	Windows Color Profile: .icm	Windows Minidump	Windows National locale: .nls
Windows Password file: .pwl	Windows Policy file: .pol	Windows Registry file: .dat	Windows Registry hive: .hiv
Windows shortcut: .lnk	WinHelp: .hlp	WinHelp Contents: .cnt	

Note: Using scan for Known File Types, **Seagate File Recovery for Mac** can successfully recover only un-fragmented files.

> Seagate File Recovery for Mac shows search progress and found objects

Detailed scan in progress **panel**



If you click the **Stop** button and select the action you want to make on the Stop message. You may stop the detailed scan for deleted files and go back to the Select the disk to recover files from panel, continue searching, show already found files, or remain on the Detailed scan panel.



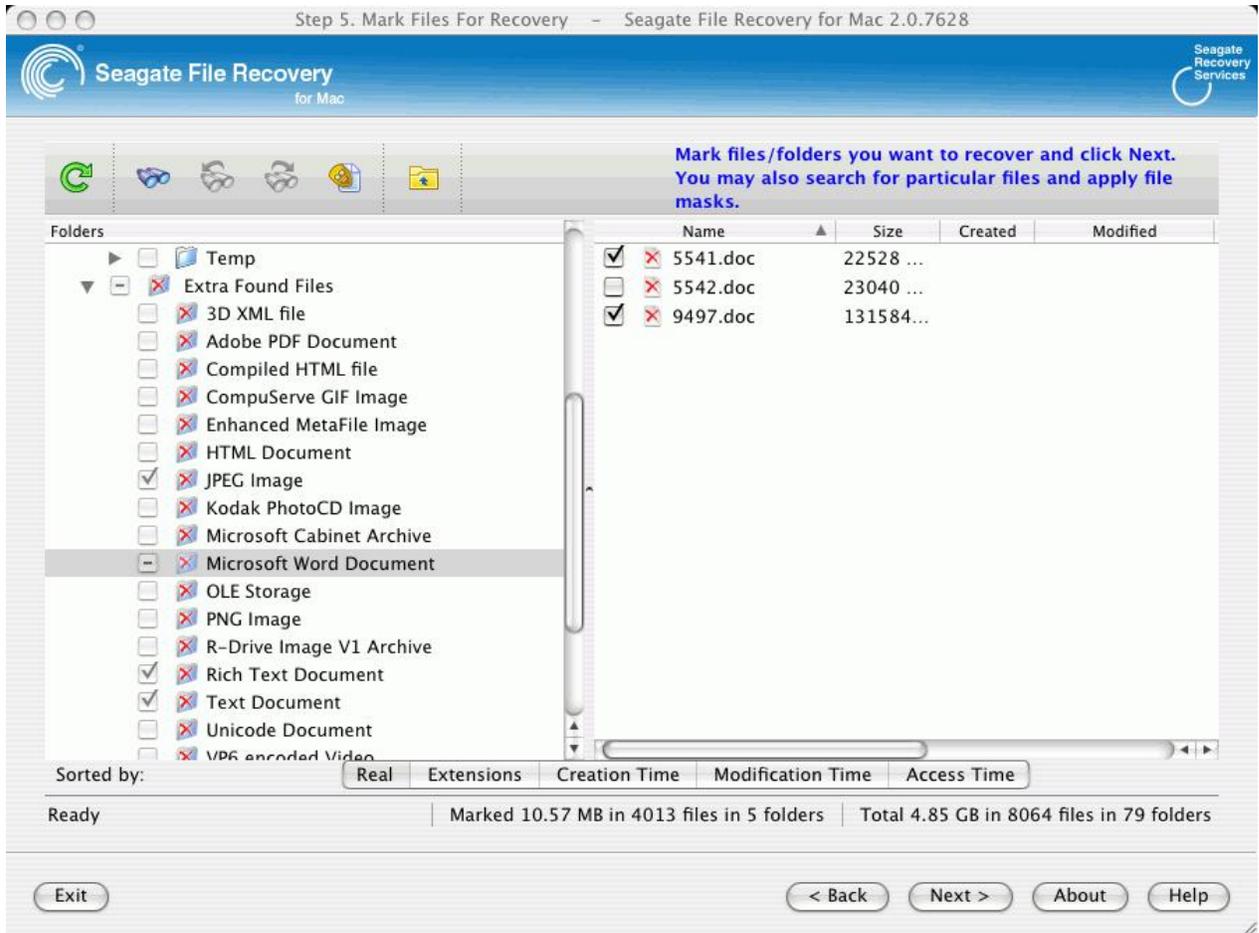
To stop the scan, click the **Stop** button and the Stop Detailed Scan message will appear. You may stop the detailed scan for deleted files and go back to the Select the disk to recover files from panel, continue searching, show already found files, or remain on the Detailed scan for Lost Files panel.

You may also restart scan or rescan already scanned object by clicking the **More** button and selecting **Restart Detailed Scan**.

When the search is through, **Seagate File Recovery for Mac** will show the Files/Folders. You may

make [data recovery](#) based on the scan results. If **Known File Types** are enabled, **Seagate File Recovery for Mac** shows found such files on the Files/Folders panel as **Extra Found Files**.

Extra Found Files.

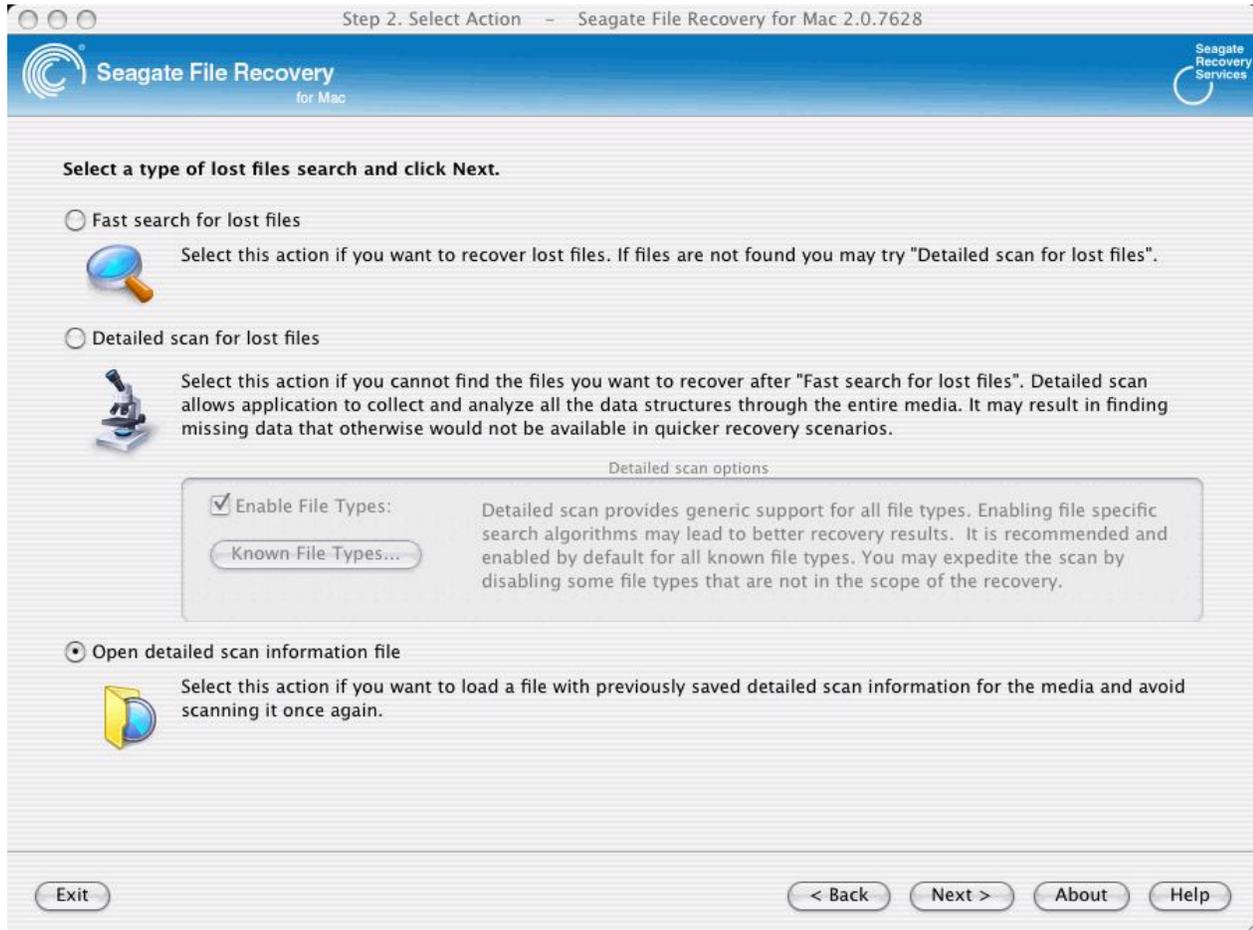


Loading Scan Information

To load scan information on the disk:

- 1 Select **Open detailed scan information file on the the logical disk on the** Step 2. Select action **panel** and click the **Next** button.

Step 2. Select action **panel** panel



- 2 Select the required file with the scan info.

If the previous scan is not completed, the Detailed scan is not completed... message will appear. You may either continue the scan or process the existing scan information.

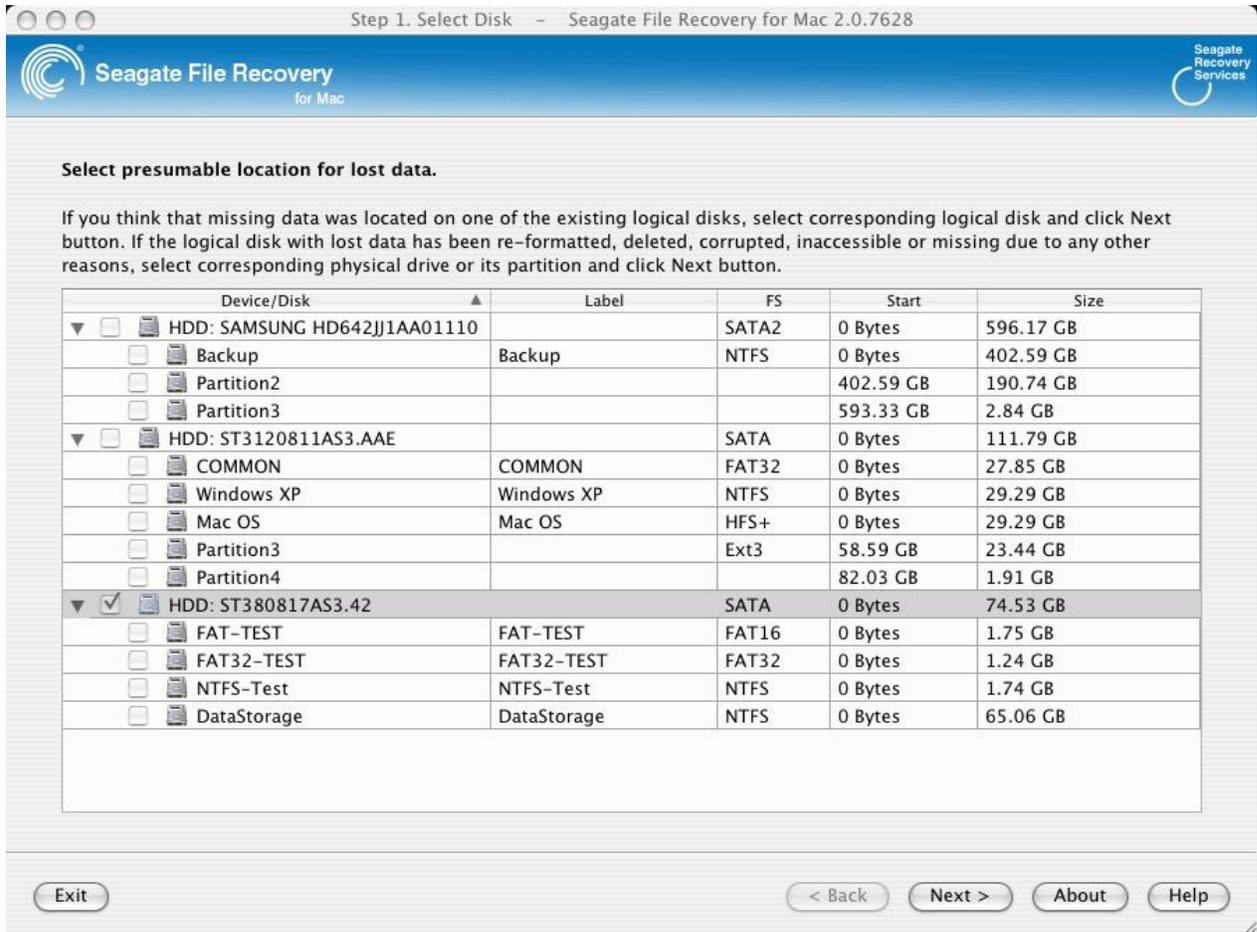


2.2 Recover Lost Files from Deleted/Corrupted Logical Disks/Partitions

To recover deleted files from a deleted logical disk:

- 1 **Select the hard drive where the deleted logical disk resided on the** Select the disk to recover files from **panel and click the Next button**

Step1. Select disk **panel**



- 2 **Select options on** Step 2. Confirm action **panel and click the Next button**

Step 2. Confirm action **panel**



You may enable/disable search for [Known File Types](#).

- > **Seagate File Recovery for Mac** starts analyzing the hard drive, and its Detailed file search in progress **panel will show search progress and found objects**

Detailed Scan for Lost Files **panel**

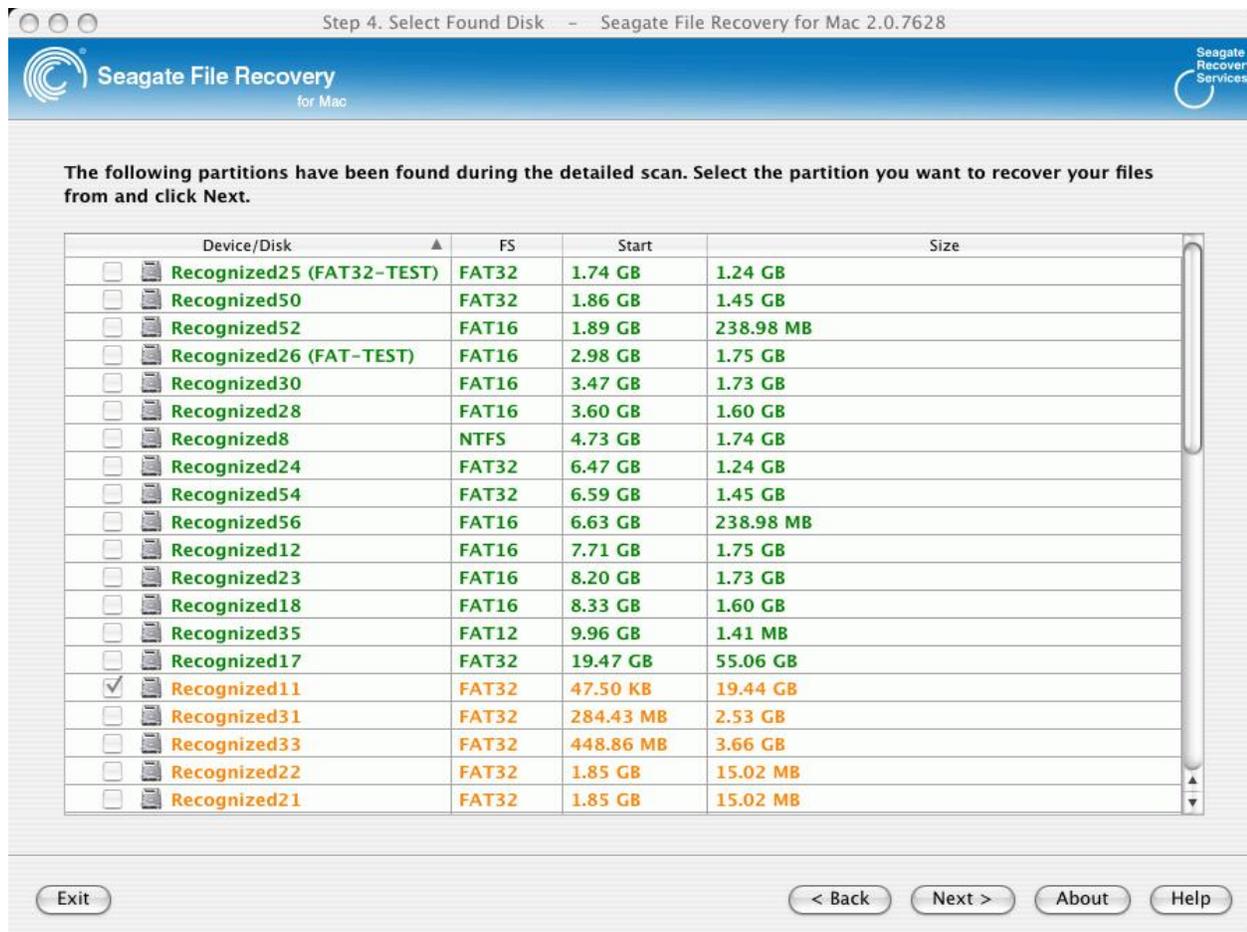


To stop the scan, click the **Stop** button and the Stop Detailed Scan message will appear. You may stop the detailed scan for deleted files and go back to the Select the disk to recover files from panel, continue searching, show already found files, or remain on the Detailed file search results panel.

You may also restart scan or rescan already scanned object by clicking the **More** button and selecting **Restart Detailed Scan**.

- 3 Select the deleted/corrupted logical disk/partition where the lost files resided on Step 3. Select found disk and click the Next button

Step 3. Select found disk *panel*

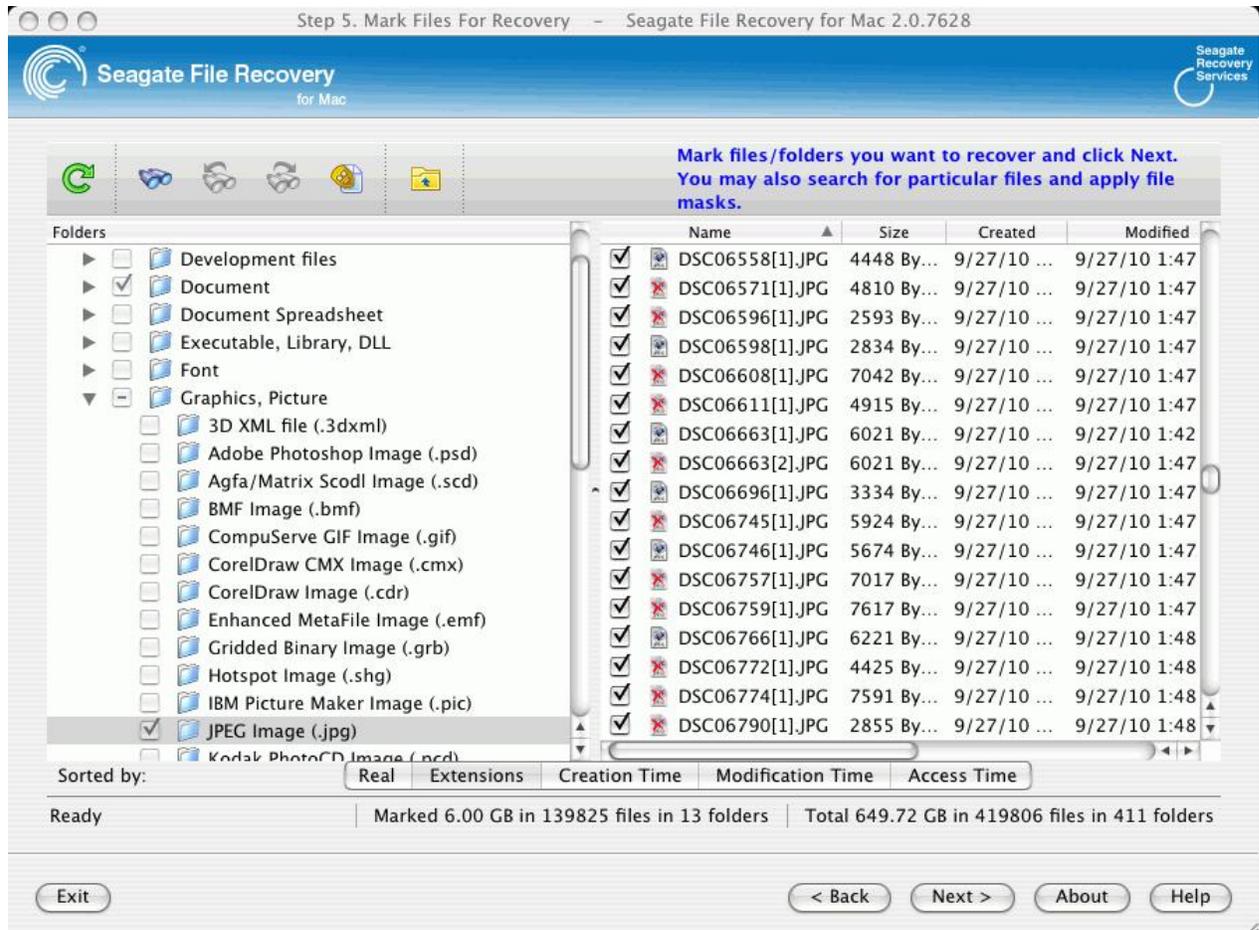


Seagate File Recovery for Mac shows found objects in different colors depending on which elements of the partition have been found.

Recognized8	Both boot records and file entries are found for this partition
Recognized21	Only file entries are found for this partition
Recognized49	Only boot records are found for this partition

- 4 **Perform all necessary lost file recovery operations starting from Step 4.** Select files for recovery panel the same way as if the files were on an existing logical disk

Step 4. Select files for recovery **panel**



See [Recovering lost files from an existing logical disk](#) for the detailed instructions on file recovery.

III Disk Image

An *image* is an exact, byte by byte, copy of any object on the Step 1. Select disk panel. When created, images can be processed like their original objects.

Images are very useful if there is a risk of total data loss due to hardware malfunction. If bad blocks are constantly appearing on a hard drive, you must immediately create an image of this drive. All data search and recovery can be done from this image.

To create an *image*,

- 1 **Control-click the disk on the Step1. Select disk panel and select Create Image File on the context menu**
- 2 **Specify image options, a file name, and destination for the *image* on the Create Image dialog box**

Note: To store an image file, you need a free space equal to at least the object size.

Create Image **File dialog box**

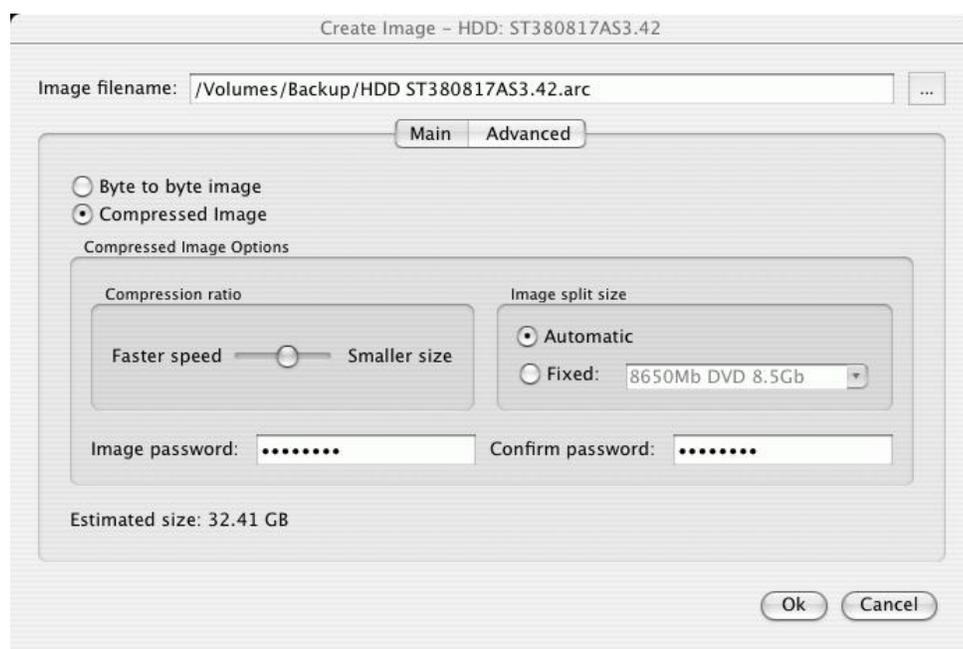


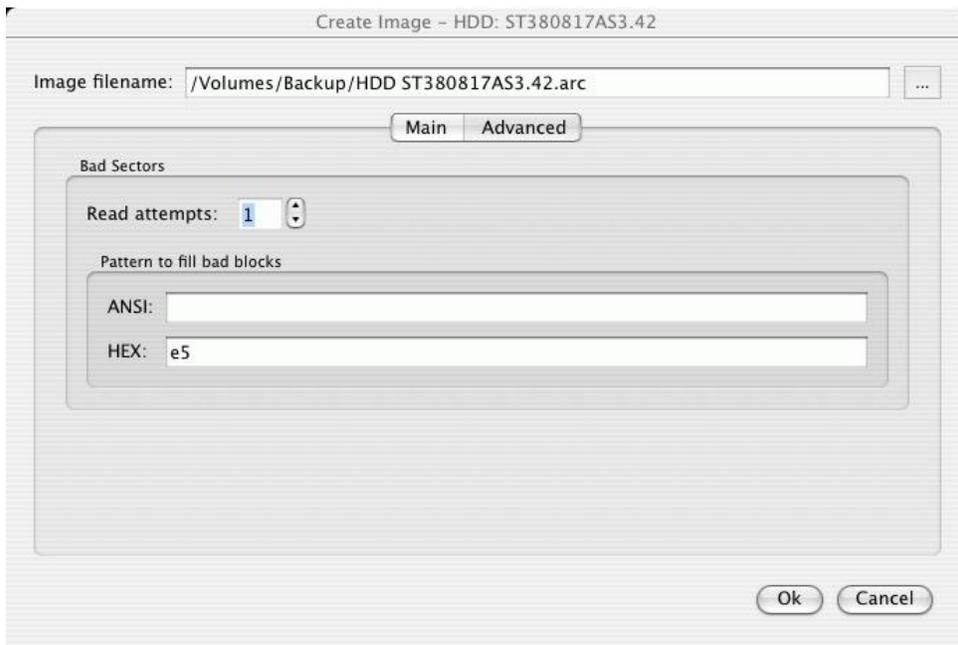
Image Options

Image name	Specifies the name and path for the image file
Byte to byte image	If this option is selected, Seagate File Recovery for Mac will create a simple exact copy of the object.
Compressed image	If this option is selected, Seagate File Recovery for Mac will create an image file which can be compressed, split into several parts, and password-protected.
Image compression ratio	You may compress the data in the image to save space. Active only if the Compressed image (R-Drive Image compatible) is selected.
Estimated size	Shows the estimated size of the image file. An actual image size depends on how much empty space is on the selected partition and what file types are there. Active only if the Compressed image (R-Drive Image compatible) is selected.
Image split size	You may set this option to Automatic and let the system decide how to split the

	image file. This mostly depends on the file system on the destination disk. You may also either explicitly specify the split size, or choose a preset for various devices with removable storage. Select Fixed size for that. Active only if the Compressed image (R-Drive Image compatible) is selected.
Password	You may protect your image file with a password. Note: This feature provides a relatively moderate protection against conventional unauthorized access. Active only if the Compressed image (R-Drive Image compatible) is selected.

You may also specify how to process files with bad sectors. You may specify the number of attempts to read the bad sectors and a pattern to fill the bad block.

Create Image **File dialog box**



> **Seagate File Recovery for Mac will start creating the image**

To process an already created *Image*, the image file should be opened.

To open an image

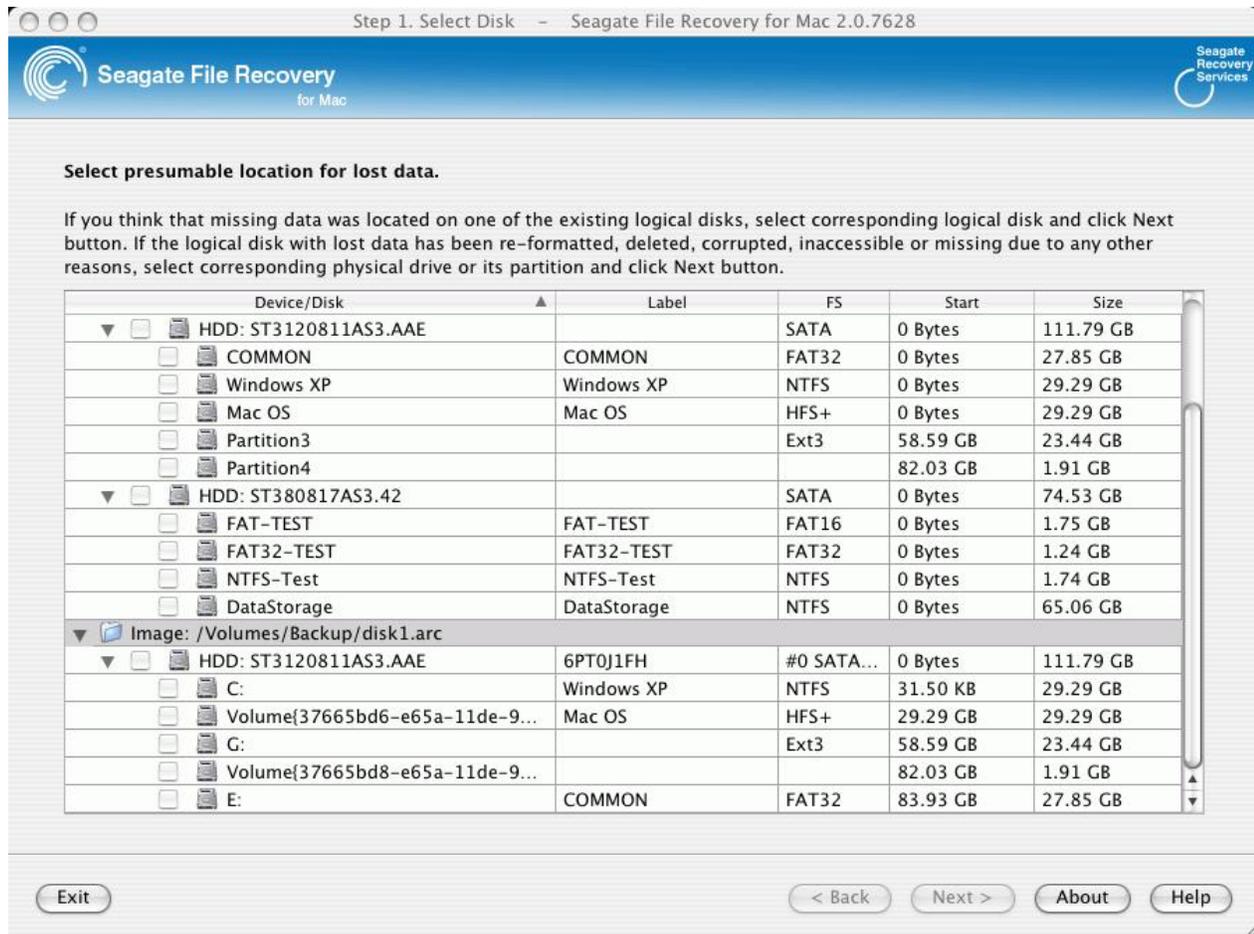
1 Control-click empty space on the Step1. Select disk **panel** and **select Open Image File on the context menu**

2 Select the required image file

> **An *Image* object will appear on the** Step1. Select disk **panel**

You may perform all data search and recovery from this image as it were a regular drive/disk object.

Step 1. Select disk **panel**.



To remove an image from the list,

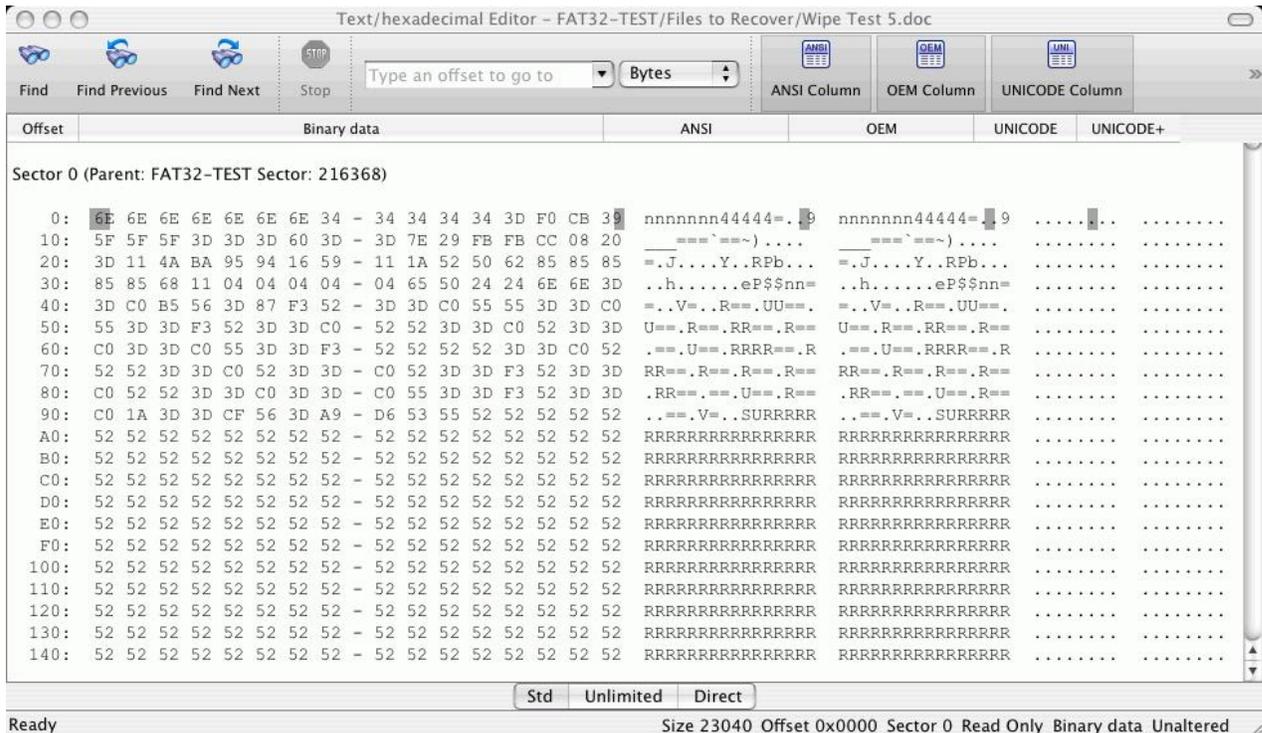
- * Control-click the image and select **Delete Image from List** on the context menu
- > The image will disappear from the Step 1. Select disk panel

Note: When you remove an image from the Step1. Select disk panel, the original image file will remain in its place.

IV Hexadecimal Viewer

If the [previewer](#) cannot recognize the format of the file to be previewed, it will open the file in the **Text/Hexadecimal viewer**.

Viewer *panel*



There are up to four tabs showing the data in different representations. Actual number of tabs depends on the object and property being viewed.

Std	Exact attribute data. If the attribute is compressed, Seagate File Recovery for Mac decompresses it prior to showing.
Unlimited	Exact attribute data + free space of last cluster. If the attribute is compressed, Seagate File Recovery for Mac decompresses it prior to showing.
Direct	Actual data written on the disk. If the attribute is not compressed, it coincides with the Std representation.
Allocation	Resident part of the attribute.

You may select an area in the Viewer panel and save it as a file. Use your mouse or select **Select...** on the **Tools** menu to select the data.

Select **Save to Binary File...** or **Save to Hexadecimal File** on the **File** menu to save the selected data to the file.

To search for a particular string, click the **Find**, **Find Next**, or **Find Previous** buttons or the same items on the **Edit** menu, and specify the string on the Search dialog box.

Search *dialog box*

▣ Search options

Search for	
HEX	Field for the string to search for in the hexadecimal representation
ANSI	Field for the string to search for in the ANSI encoding
OEM	Field for the string to search for in the OEM encoding
UNICODE	Field for the string to search for in the UNICODE encoding
Match case	Select this check box to make the search case-sensitive
Search area	
From current position	Select this check box to start search from the current position
From start position	Select this check box to start search from the beginning of the object
From Address	Select this check box and specify the range in which the search is to be carried out
Search position	
Exhaustive search	Select this check box to search the entire object
Search at offset	Select this check box and specify the sector offset from which the search will start
Reverse	Select this check box to start the search in the reverse direction
Find all	Select this check box to search for all instances of the string to search. Search results will be shown in the Find Results pane.

V Data Recovery Issues

NEVER TRY TO SAVE RECOVERED FILES/FOLDERS TO THE SAME LOGICAL DISK WHERE THEY RESIDE!!!

Or you may obtain unpredictable results and lose all of your data.

Seagate File Recovery for Mac writes directly to a hard drive only when writing recovered data and from its hex editor, if writing is enabled. In all other actions, **Seagate File Recovery for Mac** only reads data and analyzes them, and never modifies data on the hard drives being analyzed.

Most operating systems use lazy-write. So, there is a time lag between file actions and actual changes on data on a hard drive. **Seagate File Recovery for Mac** analyzes data on hard drives only. That is why it does not always detect recent changes in data structure.

Most operating systems constantly write their service information on hard drives. Such writing is especially intensive during start-up and shut-down procedures. When an operating system deletes a file/folder, it treats the space where it has resided as empty and may write something in this place. If this happened, the file/folder and its parameters may be detected correctly, but its data may be lost.

Folder names like **\$\$\$Folder58448** on NTFS partitions mean that the folder has not been found on the drive but some references to it have been. For example, folders My documents, Work, and Photos have been found and all they have one parent folder, whose description has not actually been found on the disk, so its name is unknown. Therefore it is represented as **\$\$\$Folder58448**. It may happen that the description of such folders was outside of the search area, so try to enlarge the region or search the entire hard drive. If that does not resolve this issue, most likely that the description of the folder has been overwritten.

Folder names like **\$ROOT58448** on FAT partitions mean that some folders have been found, but they cannot be included into the folder structure for this FAT partition. Sometimes, such folders may contain other folder structures.

If you recover a file, and it appears that the file contains wrong data, try to [perform detailed scan for deleted files](#) for the files on the disk

Cross-Linked Folders

Often **Seagate File Recovery for Mac** finds several FAT folder records that contain the same data. Such folders are called *cross-linked*. **Seagate File Recovery for Mac** marks such folders with an arrow mark:

 Helsinki

Seagate File Recovery for Mac attributes the content of cross-linked folders to one folder called a *target folder*. When recovering, **Seagate File Recovery for Mac** places the content to the target folder.

To view the list of cross-linked folders,

- * **Control-click a cross-linked folder and select Cross Linked Folders on the context menu**
- > **A list of cross-linked folders will appear**
You may go to any folder in this list by clicking it.

To find a target folder,

- * **Control-click a cross-linked folder and select Go Target on the context menu**
If **Go Target** is gray, this folder is already the target folder.

To set the target folder manually,

- * **Control-click a cross-linked folder and select Set As Default Target on the context menu**

If **Set As Default Target** is gray, this folder is already the target folder.

Questionable Folders

Sometimes, **Seagate File Recovery for Mac** may find FAT records, which look like folders, but their content is invalid. For example, file names have invalid characters, date, time, and size, or other file attributes may look strange. Please note that **Seagate File Recovery for Mac** correctly recognizes localized names. **Seagate File Recovery for Mac** treats such records as folders, but does not analyze their content and structure. You can manually search such folders, but results may be unpredictable. Usually, such search reveals garbage.

Seagate File Recovery for Mac marks such folders with a question mark.   ?144718_

To re-search an object,

- * **Control-click a questionable folder on the Seagate File Recovery for Mac's Folders panel and select Re-search on the context menu**

VI Extended Information Recovery

Seagate File Recovery for Mac supports recovery of compressed files, alternative data streams, encrypted files, file security and extended file attributes. If the **Seagate File Recovery for Mac** host OS and the file system of the disk you are going to save file to support any particular extended information, it will be saved with the file, too. Otherwise, the extended information will be saved as separate files with the same name as the restored file and extension showing the type of the extended information. Below is a quick reference for the host OS and file system of the target drive.

Extended Information	Required target disk FS
Encrypted files	NTFS
Alternative data streams	NTFS
File security	NTFS
Extended file attributes	NTFS or FAT

VII Data Recovery on HFS/HFS+ File System

When deleting a file, Mac OS X deletes system BTree+ records describing the file. Therefore, it is hard to recover such file directly. Those records may remain in:

1. The swap file (if the deleted file has been deleted recently).
2. In the journal (if the HFS+ journaling is on, and the deleted file has been CREATED recently)

Actually, if a file has been deleted, chances that the records would be found are small. To greatly increase the chances to recover deleted files successfully , you may actively use scanning with enabled [Known Files Types](#)

Note: All above is correct for intentionally deleted files. In case of a corrupted file system, HFS/HFS+ can be recovered quite successfully.

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