

Botanic Gardens Conservation International  
*The world's largest plant conservation network*



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# 模块1：采集规划





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- 许可
- 后勤
- 安全
- 团队
- 装备



# 许可



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## 确保合法采集

- 采集种子之前从土地所有者和管理者那里寻求许可
- 如果你要从保护区或者生物多样性丰富的国家采集珍稀濒危物种，采集许可证是一个法定条件



# 许可



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- 不能获得必需的文件可能推迟运作，危及将来的工作或者导致起诉！



# 许可



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## 检查目标物种不是受保护物种

如：

CITES 野生动植物国际贸易公约



<http://www.cites.org>

如：

The Bern Convention 伯尔尼公约



<http://conventions.coe.int/Treaty/EN/Treaties/Html/104.htm>

如：

国家保护物种



LISTA DE ESPECIES EN PELIGRO DE EXTINCIÓN,  
AMENAZADAS O PROTEGIDAS  
DE LA REPÚBLICA DOMINICANA  
LISTA ROJA



# 许可

## 规则的不同取决于国家以及谁拥有土地

如：

UK 英国

采集野生生物和农村法（1981）表8中的物种需要从相关法定保护机构获取许可，包括：自然英格兰，威尔士自然资源或苏格兰自然遗产。



如：

Australia 澳大利亚

由于有些植物具有特殊的意义而不能被触及（如：图腾植物），所以必须从传统的土地所有者那里获取许可



请教当地合作者，政府部门和生物学家。

联系: <http://www.cbd.int/information/nfp.shtml>

# 许可



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## 你可能需要许可：

标记树木



种子和标本馆标本



受限制的装备



# 许可



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## 需要考虑的事情包括：

- 进入：联系当地管理者
- 保险，如：健康和安全评分
- 个人文件，如：入境签证，工作许可证和国际健康证书
- **国家机构的标本可能需要许可**
- 如果种子要运到其它国家，联系国家植物健康局





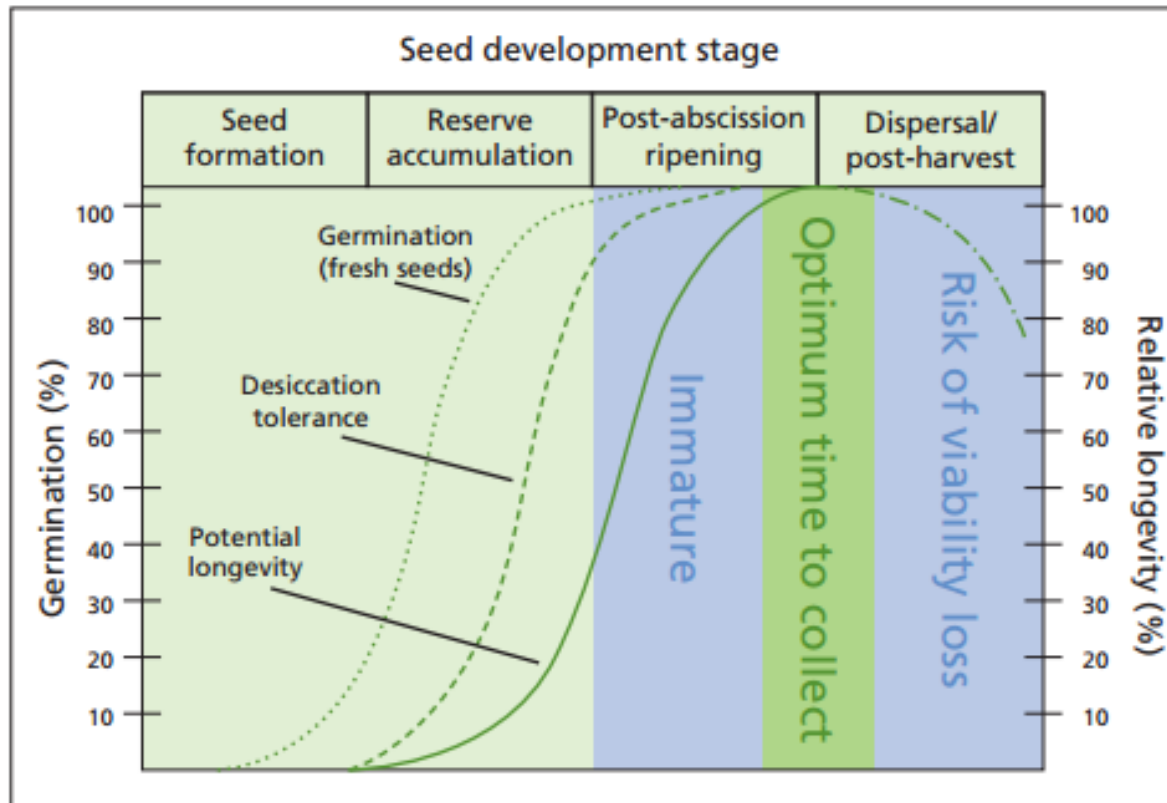
# 后勤：时间



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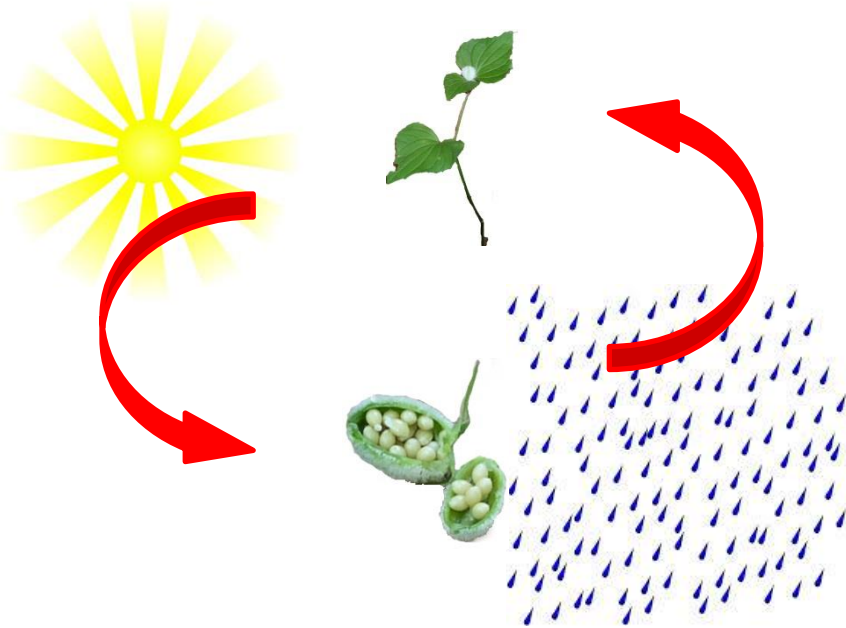
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在种子扩散之时采集以使贮藏时间最大化



## 物候现象：

物种物候的变化取决于天气和其它因素。标本馆数据仅仅是一种估计。



如：欧洲西北的草本植物，开花和结种峰值额外加1.5-2个月是一个有用的参考。（ENSCONET, 2009）



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# 后勤：时间

## 一个最新的种子采集日历有助于规划旅行！

### STEP 3: Develop a seed collection calendar

Based on your initial research, develop a seed collection calendar as a means to plan trips to the field. Include information on when your species is expected to (a) to flower, (b) produce immature fruits and (c) when these fruits are likely to mature (and therefore be ready for collection). You might find it helpful to include notes on how to identify flowers, immature or mature fruits in the field.

Species	J	F	M	A	M	J	J	A	S	O	N	D	Notes
Bu = Buds; Fl = Flowering; Im = Immature Fruits; M = Mature Fruits													
Species 1		Bu	Fl	Fl	Fl	Im	M						Fruits turn black when ripe
Species 2	Bu	Fl	Fl			Im	Im	M					Rainy season triggers fruiting
Species 3	Bu/Fl	Fl	Im	M			Bu	Fl	Im	M			Fruits turn from green to red when ripe

Note that the phenology of a given species may vary (a) from year to year or (b) between populations found in different locations. This may be related to the physiology of the species itself or due to climatic fluctuations.

Therefore it's essential to improve the accuracy of your seed collection calendar by monitoring actual changes in the phenology of your target species during collection trips. It might be helpful to take photographs of different reproductive stages, and record the date they were taken, to guide future field trips.

Photographs of different reproductive stages for *Cyphomandra diploconos*, a small tree from Southern Brazil



Flowers at different stages of maturity



Flowers with very young fruits in the same inflorescence



For this species, a transverse section reveals differences between mature and immature fruits. Here, an immature fruit has a hard, white flesh with underdeveloped seeds



Mature fruits for this species have juicy, yellow flesh with fully developed seeds ready for collection

TOP TIP

Having a seed collection calendar is particularly helpful for certain species. Trees with *dehiscent fruit* (dry fruit that split open to release their seeds) must be harvested before seeds are dispersed and scattered far from the mother tree.

For species with *fleshy fruits*, mature fruits must be harvested before they are all predated by animals.

(Global Trees Campaign, 2013)

# 后勤：地点

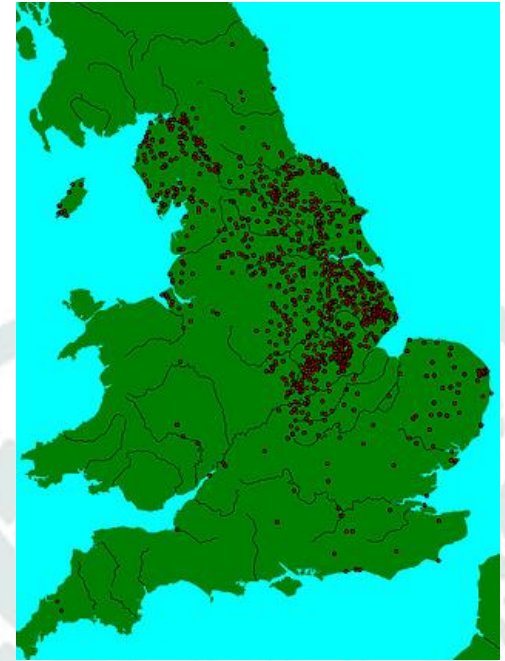


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## 研究：

- 当地植物学家和植物生态学家
- 生态地理调查
- 编目
- 植物区系分布地图
- 在植物学期刊中的时间顺序记载
- 标本馆标本
- 现场勘查
- 卫星植被图像







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# 后勤：交通

## 不要浪费时间！

确保可以得到足够的交通工具以及路线是可行的。



## 提前规划！

- 采集的果实可能需要立即运走
- 与种子提取室的职员商量得到果实的时间





# 安全



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## 协议：

- 你将面临的相关条件的保险（地形和天气）
- 遵守生物安全和植物健康规程，预防病原体的传播
- 熟悉你的职业健康安全政策



## 你的装备：

- 合适的服装和个人保护装备
- 足够的饮用水和洗手的水（特别是如果处理有毒的或刺激性种子）
- 出发前检查所有的安全装备



## 提前规划:

- 如果常规的预先安排的联系方式丢失了，将你的行程给可以采取行动的人
- 少于三个人的时候不要去野外
- 检查天气，道路和火情报告
- 制定应急计划
- 携带适当的电话号码



# 你的团队



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## 确保有合适的人做该工作

如：

- 导航器
- 种子采集者
- 爬树的人
- 急救人员





# 装备



## 使用正确的装备：

- 使得采集更容易
- 确保采集的种子被有效地保存
- 预防意外事故



# 装备

## 采集种子的装备



## 储藏种子的装备



## 个人防护装备



## 安全装置



# 装备



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## 装备的使用取决于地形和目标物种

### 装备清单

- [全球树木运动, 2013. p. 4](#)



**5** How to collect seeds from threatened trees species

#### STEP 4: Acquire field equipment

- GPS and extra batteries.
- Tree-climbing equipment (including ropes, a helmet, harness).
- Compass and Topographic maps
- Tree loppers.
- Weather-resistant field notebooks; mechanical pencils.
- Secateurs.
- Binoculars for identifying tall trees (looking at leaves, flowers, fruits in the canopy).
- Throw lines and weighted bags (for facilitating fall of seeds).
- Camera for recording plant features – or equipment to ID flowers later.
- Tarpaulin or buckets (for collecting falling seeds).
- Food, water, personal gear and mobile phone
- Mesh bags (for tying round seed heads awaiting seed dispersal).
- First-aid kit.
- Wicker basket, paper bags or breathable containers (for temporary storage of fruits and seeds).
- Field guide or notes for identification.
- A cool box.





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模块1结束了，测试一下？

然后，去模块2（确定重点和采集前评估）



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*Connecting People • Sharing Knowledge • Saving Plants*

Our Mission is to mobilise botanic gardens and engage partners in securing plant diversity for the well-being of people and the planet

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