

*FAO Workshop on  
Land Tenure and Land Consolidation  
Santiago de Compostela, 9, 10 and 11 of February 2009*

**Information Systems for the  
Land Bank of Galicia (BANTEGAL)  
and the  
Forest Management Units (UXFOR)**

Ramón Doallo  
Computer Architecture Group (CAG)  
University of A Coruña



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CONSELLERÍA DO MEDIO RURAL



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Information Systems for the Land Bank of Galicia  
(BANTEGAL) and the Forest Management Units (UXFOR)

**Presentation Outline (I)**

- BANTEGAL and UXFOR Information Systems
- Origins and chronology
- Objectives
- Requirements
- System architecture overview
- SITEGAL Information System:
  - Functionalities
  - SITEGAL “in figures”
  - Future work



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**Information Systems for the Land Bank of Galicia  
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## Presentation Outline (II)

- SIUXFor Information System
  - Functionalities
  - Future work
- Conclusions
- SITEGAL demo
- SIUXFor demo



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## BANTEGAL and UXFOR Information Systems



**BanTeGal**  
Bancode Terras de Galiza

para QUE ?  
para QUEN ?  
de que XEITO ?  
CON QUE GARANTÍAS ?




Saúdo do conselleiro  
Un Banco de Terras?  
BanTeGal gráfico multimedia  
Preguntas frecuentes  
Zonas de interese agrario

**UXFOR**

Unidades de Xestión Forestal

Presentación UXFOR gráfico multimedia Preguntas frecuentes Normativa Actividades SIUXFor

**CREACIÓN**  
UNIDADES UXFOR

**OBJECTIVOS**  
UXFOR

**SISTEMA DE REORGANIZACIÓN**  
UXFOR

**IDENTIFICACIÓN Y DECLARACIÓN DE INTERÉS**  
UXFOR

A Consellería do Medio Rural promove as Unidades de Xestión Forestal (UXFOR), unha das medidas destinadas a crear explotacións viables e sustentables con perspectiva de futuro, da man do medio beneficiario para o sector, en termos tanto económicos como ambientais, que favoreza a ordenación da superficie e a prevención de incendios no noso país.

Para a creación das UXFOR, fomentáronse o asociacionismo de propietarios de montes cunha superficie conxunta superior a 15 hectáreas.

As UXFOR dispoñen dun instrumento de xestión ao abeiro da Lei de prevención e defensa contra incendios forestais de Galicia. Este documento técnico permitirá crear espazos de maior tamaño, que posibilitan aumentar a rentabilidade e o aproveitamento multifuncional da superficie forestal por parte de propietarios de pequeno tamaño.

Desenvolverán tamén a ordenación do uso, actuacións de silvicultura preventiva e reforzo das infraestruturas de defensa contra o lume. Con esta actuación, diferenciar e integrar as áreas de territorio de diferentes plans de prevención e defensa contra o lume instruídos polas distintas administracións.

As UXFOR terán personalidade jurídica e reservase dun xeito democrático de acordo cos seus estatutos. Contribuirán a divulgar e a promover entre a poboación a reunión activa e o principio de corresponsabilidade. Ademais, serán prioritarias nas axudas públicas destinadas ao sector forestal.

Para a realización de trámites relacionados coas UXFOR pode acceder á aplicación **SIUXFOR**. A través de **SIUXFOR** pode ademais consultar a localización e información sobre as UXFOR xa existentes no país de creación.









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## Web-GIS Information System Requirements

What is needed for a Web-GIS System?

- Georeferenced data
- Funding
- Software
- Internet networking (server and users)
- Computer skills

What is desirable for a Web-GIS System?

- Connectivity
- Standards
- Flexibility

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## Georeferenced Data




- Desirable characteristics:
  - Up-to-date
  - Accurate
  - Complete
- ...But high quality data is expensive to produce so advantage must be taken of existing data
- Possible data sources:
  - Cadastrals and property registers
  - LPIS (Land Parcel Identification Systems)
  - Local, regional and national public institutions like ministries, agencies, geographic institutes, etc.
  - Also data collected by the European Union
    - E.g.: Corine Land Cover
  - Data from satellites




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## Free Software

- **What does "free" mean?**
  - When speaking of software, "free" usually means liberty to modify it and distribute it freely
  - But, in most cases, free software is also free of charge
  - A common term for it is FOSS: Free Open Source Software
- **FOSS advantages:**
  - No cost
  - Flexibility: it can be installed as many times and in as many computers as required without any licence charge
  - Open Source: it can be modified and adapted to particular requirements
- **FOSS drawbacks:**
  - Users may need additional training
  - In some cases:
    - It is more unstable than non-free alternatives
    - It has less functionalities than non-free alternatives
  - Frequently, FOSS projects has few developers => risk of abandonment
  - FOSS evaluation:
    - Are its functionalities enough for our system?
    - Have the results of our tests been positive?
    - Are user and developer communities active?

=> If the answers are positives then FOSS is a valuable alternative

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## Web-GIS FOSS

- **Three main components:** Data storage system, Web map server, and Web map viewer
- **Data Storage System:**
  - Two spatially-enabled free relational database systems were considered:
    - Our choice: PostgreSQL with the spatial extension PostGIS
    - Other option: MySQL with spatial extensions (less mature than PostGIS)
- **Web Map Server:**
  - Our choice: MapServer, one of the most veteran free GIS applications
  - Other options: GeoServer, deegree, MapGuide Open Source
- **Web Map Viewer:**
  - Our choice: dbox library (JavaScript-based, avoiding the use of plug-ins)
  - Other options: OpenLayers, Mapbender

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## Framework Software

- Additional software is needed without specific GIS capabilities (necessary for any web information system)
- Server-side:**
  - Operating system: Linux
  - Web Server: Apache
  - Relational database server: PostgreSQL
  - Programming language: Java
- Client-side**
  - Web browser: Mozilla Firefox, I. Explorer, ...
  - Plug-ins? It depends on the type of viewer

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## What is needed for a Web-GIS Information System?

(cont.)

- Internet bandwidth:
  - A broadband connection is desirable
  - Inconvenient for rural areas (limited Internet access)
- Computer skills:
  - Technical staff:**
    - They should be or get familiarized with web map browsing
  - Users (owners and applicants):**
    - Usually, the average age of farmers is high and their computer skills are limited
    - Web-GIS applications, like CAP<sup>1</sup>-related LPIS<sup>2</sup>, are spreading further every day and they are "forcing" farmers to get familiarized with these technologies

• 1- Common Agricultural Policy

• 2- Land Parcel Identification Systems

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## What is desirable for a Web-GIS Information System?

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• Some properties that a Web-GIS system should also comply:

### Connectivity:

- The system should be able to:
  - Access to the main GIS data formats including:
    - » Spatially-enabled databases
    - » Raster and vector file formats
  - Access to remote data
    - » Current trend: avoid making local copies of the data and use it through the web services offered by the producer of the data => The system always uses the last public update of the data

### Standards:

- They make the system more independent of changes in software components
- Main organization for GIS standardization:
  - Open Geospatial Consortium (OGG)
- Main standards: WMS<sup>1</sup> (maps), WFS<sup>2</sup> (vector data)

### Flexibility:

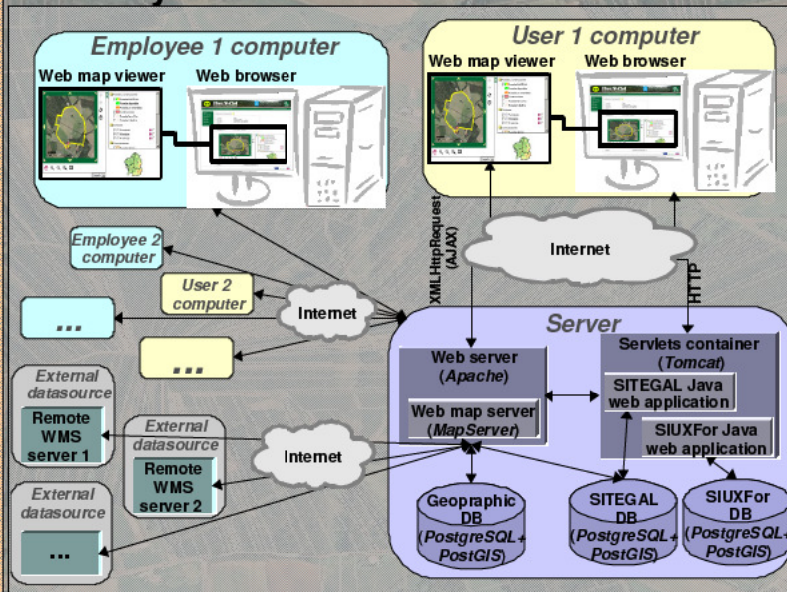
- Changing the source of a geographic layer should be easy and quick

1- Web Map Service  
2- Web Feature Service

## System Architecture overview

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## SITEGAL Information System

**SITEGAL - Microsoft Internet Explorer**

Archivo Edición Ver Favoritos Herramientas Ayuda

Vínculos Dirección <http://www.bantegal.com/sitegal/>

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Banco de Terras de Galicia

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Bemvido ao SITEGAL

**SITEGAL**

- Inicio
- Páxina principal
- Ver parcelas do banco
- Ofrecer parcelas
- Solicitar parcelas
- Formularios
- Iniciar sesión

**Bemvido ao SITEGAL - Sistema de Información de Terras de Galicia**

Se a vostede un propietario interesado en ofrecer parcelas ao Banco de Terras de Galicia ou ben un agricultor que quere arrendar algunha das parcelas que xa se atopan dispoñibles, comprabe como os trámites son sinxelos e rápidos. Ademais, a través do SITEGAL, poderá facer parte dos mesmos cómoda e rapidamente e cando e onde o seu ordenador.

Os pasos a seguir para calquera das accións son ben sinxelos e a través do SITEGAL simplifícanse aínda máis.

É vostede un propietario interesado en ceder parcelas ao banco? Vexa como.

É vostede un agricultor interesado en solicitar unha parcela ao banco? Vexa como.

[Ver máis](#)

**Últimas parcelas incorporadas ao banco**

Localización	Data	Superficie	Usos de solo	Precio
Lugo - Lugo Poltonillos (San Martiño)	05/02/2009	31.150 m <sup>2</sup> (3,12 ha)	Labrado secaño 31.150 m <sup>2</sup> (3,12 ha)	445 euros anuais
Ourense - Lugo Pradoa (Santa Eulalia)	04/02/2009	5.795 m <sup>2</sup> (0,58 ha)	Pastoreo 5.795 m <sup>2</sup> (0,58 ha)	23 euros anuais
Ourense - Lugo Castelo de Polvoreas (San Salvador)	04/02/2009	2.942 m <sup>2</sup> (0,29 ha)	Pastoreo 2.942 m <sup>2</sup> (0,29 ha)	20 euros anuais

[Ver máis](#)

Recomendouse utilizar Mozilla Firefox

Hazlo momento aínda estamos mellorando este sitio. Se observa algún erro agradecemos que nos comuniquen.

Internet

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## SITEGAL Functionalities

**Contents:**

- Origins
- Objectives
- Requirements
- System Architecture
- SITEGAL Inf. System:
  - Functionalities
  - SIT... "in figures"
  - Future work
- SIUXFor Inf. System:
  - Functionalities
  - Future work
- Conclusions
- Links

- **Public site:**
  - List, search and query the plots available for rent
  - Offer plots to the bank
  - Apply for plots to rent
  - View the state of applications (approved, denied, under consideration)
  - ... and all these operations by means of selecting or viewing the plots in the map viewer.
- **Private site (internal management)**
  - Review of applications for approval or refusal
  - Automatic generation of documents: contracts, letters, lists,...
  - Automatic calculation of statistics: percentages of land uses, average prices,...
  - Automatic calculation of rental prices (based on land uses and reference prices)

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**FAO Workshop on  
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**Information Systems for the Land Bank of Galicia  
(BANTEGAL) and the Forest Management Units (UXFOR)**

Parcelas do banco - Mozilla Firefox

Archivo Editar Ver Historial Marcadores Herramientas Ayuda

http://SITEGAL: public list of plots for rent

**BanTeGal**  
BancodeTerrasdeGaliza

XUNTA DE GALICIA  
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Inicio - A miña páxina principal - Parcelas do banco Benvido ao SITEGAL

**SITEGAL**

Inicio

Páxina principal

Ver parcelas do banco

Ofrecer parcelas

Solicitar parcelas

Formularios

Iniciar sesión

**Parcelas do banco**

1, 2, 3, 4, 5, 6, 7, 8

Localización	Código	Data introdución	Superficie	Usos do solo	Prezo	Dispoñible
Baltar - Ourense Garabelos do Bouzo (Santiago)	Zona:0 Polígono:501 Parcela:33	06/02/2009	18.302 m <sup>2</sup> (1,63 ha)	Pasteiro: 18.302 m <sup>2</sup> (1,83 ha)	40 euros anuais	Si
Lugo - Lugo Poutomillos (San Martiño)	Zona:6 Polígono:502 Parcela:106	05/02/2009	31.150 m <sup>2</sup> (3,12 ha)	Labradío secaño: 31.150 m <sup>2</sup> (3,12 ha)	445 euros anuais	Si
Guntín - Lugo Pradeda (Santa Eulalia)	Zona:0 Polígono:121 Parcela:461	04/02/2009	5.799 m <sup>2</sup> (0,58 ha)	Pasteiro: 5.799 m <sup>2</sup> (0,58 ha)	23 euros anuais	Si
Guntín - Lugo Castelo de Palares (San Salvador)	Zona:0 Polígono:121 Parcela:547	04/02/2009	2.942 m <sup>2</sup> (0,29 ha)	Pasteiro: 2.942 m <sup>2</sup> (0,29 ha)	20 euros anuais	Si
Guntín - Lugo Zolle (Santa Maria)	Zona:0 Polígono:121 Parcela:424	04/02/2009	1.885 m <sup>2</sup> (0,19 ha)	Pasteiro: 1.376 m <sup>2</sup> (0,14 ha) Forestal arbolado: 508 m <sup>2</sup> (0,05 ha)	20 euros anuais	Si
Outes - A Coruña Roo (San Xoán)	Zona:1 Polígono:502 Parcela:166	04/02/2009	3.306 m <sup>2</sup> (0,33 ha)	Labradío secaño: 3.306 m <sup>2</sup> (0,33 ha)	55 euros anuais	Si
Outes - A Coruña Roo (San Xoán)	Zona:1 Polígono:502 Parcela:167	04/02/2009	3.649 m <sup>2</sup> (0,36 ha)	Labradío secaño: 3.649 m <sup>2</sup> (0,36 ha)	60 euros anuais	Si

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Datos da parcela - Mozilla Firefox

Archivo Editar Ver Historial Marcadores Herramientas Ayuda

http://SITEGAL: public details of a plot for rent

**BanTeGal**  
BancodeTerrasdeGaliza

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Inicio - A miña páxina principal - Parcelas do banco Benvido ao SITEGAL

**SITEGAL**

Inicio

Páxina principal

Ver parcelas do banco

Ofrecer parcelas

Solicitar parcelas

Formularios

Iniciar sesión

**Datos da parcela**

Estado: Dispoñible

<p>Número de expediente: 20083200122</p> <p>Provincia: Ourense</p> <p>Concello: Baltar</p> <p>Parroquia: Garabelos do Bouzo (Santiago)</p> <p>Superficie: 18.302 m<sup>2</sup> (1,83 ha)</p> <p>Usos:   Pasteiro: 18.302 m<sup>2</sup> (1,83 ha)</p> <p>Prezo da parcela: 40 euros anuais</p>	<p>Parcelario: SIXPAC</p> <p>Agregado: 0</p> <p>Concentración: 0</p> <p>Polígono: 501</p> <p>Parcela: 33</p>
---	--

**Parcelas**

- ☒ Parcelas BANTEGAL
- ☒ Parcelas seleccionadas
- ☒ Parcelas dispoñibles
- ☒ Parcelas arrendadas
- ☐ Parcelas non dispoñibles
- ☒ Parcelas (SIXPAC)
- ☐ Códigos parcelas (SIXPAC)
- ☐ Catastro

**Divisións**

- ☒ Entidades singulares
- ☒ Parroquias
- ☒ Concellos
- ☒ Provincias
- ☐ Comarcas

**Outros**



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**Information Systems for the Land Bank of Galicia  
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Pre-solicitudes e solicitudes de arrendamento sobre a parcela - Mozilla Firefox

http://www.bantegal.com

**SITEGAL: applications for rental of a plot (private site)**

**B+ BanTeGal**  
BancodeTerrasdeGaliza

XUNTA DE GALICIA  
CONSELLERÍA DO MEDIO RURAL

Inicio - A miña páxina principal - Detalles da parcela 20082700601 - Pre-solicitudes e solicitudes de arrendamento sobre a parcela Ola jparapar - Salir

**SITEGAL**

Modificar os meus datos

Cambiar contrasinal

Cesións

Arrendos

Parcelas

Masas comúns

Clientes

Xestores

Administración

Formularios

Protección de

**Pre-solicitudes e solicitudes de arrendamento sobre a parcela 20082700601**

Pre-solicitudes de arrendamento sobre a parcela 20082700601

Exp. parcela	Localización	Superficie	Data sinatura	Estado	Prezo	Pre-solicitante
20082700601	Foz - Lugo Foz (Santiago)	2.215 m² (0,22 ha)	12/01/2009	Solicitud recibida Parcela Fin periodo concurrencia	29 euros anuais	XXXX XXXXXXXX
20082700601	Foz - Lugo Foz (Santiago)	2.215 m² (0,22 ha)	12/01/2009	Pre-solicitud aceptada Parcela Fin periodo concurrencia	29 euros anuais	YYYY YYYYYY
20082700601	Foz - Lugo Foz (Santiago)	2.215 m² (0,22 ha)	13/01/2009	Solicitud recibida Parcela Fin periodo concurrencia	29 euros anuais	ZZZZ ZZZZZZZZ

Solicitudes de arrendamento sobre a parcela 20082700601

Exp. parcela	Localización	Superficie	Data sinatura	Estado	Prezo	Pre-solicitante
20082700601	Foz - Lugo Foz (Santiago)	2.215 m² (0,22 ha)	22/01/2009	Solicitud recibida Parcela Fin periodo concurrencia	29 euros anuais	XXXX XXXXXXXX
20082700601	Foz - Lugo Foz (Santiago)	2.215 m² (0,22 ha)	02/02/2009	Solicitud recibida Parcela Fin periodo concurrencia	29 euros anuais	ZZZZ ZZZZZZZZZZ

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## SITEGAL “in figures”

**Contents:**

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- Working since November 2007
- Applications for the incorporation of plots to the bank:
  - 31% of the applications are done through the system
  - 42% of the applicants have an user account
- Rental applications:
  - 45% of the applications are done through the system
  - 33% of the applicants have an user account

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- Links

## SITEGAL Future Work

- **Better management of rental applications:**
  - Storage of rental applications from farmers that do not find enough available plots to fulfill their requirements
  - Automatic sending of e-mails or SMS when new and suitable plots were available for renting
- Digital signature mechanisms to speed up procedures
- Implementation of spatial queries:
  - e.g., list all plots within a given distance from a given point
- Map viewer:
  - A more popular map viewer (like OpenLayers)
  - Digitising functions to redraw plots when cadastral limits are incorrect
  - User permission for adding remote WMS layers

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**SIUXFor**

- Inicie sesión
- Inicie sesión
- Consultar declaraciones de interés
- Engadir declaración de interés
- Consultar pre-solicitudes
- Engadir pre-solicitudes
- Solicitudes
- Restriccións
- Iniciar sesión

## SIUXFor Information System

**Bemvido ao SIUXFor - Sistema de Información das UXFOR**

A través de SIUXFor vostede pode realizar trámites relacionados coas Unidades de Xestión Forestal. Tamén pode consultar información sobre as unidades xa existentes na súa zona ou en proceso de creación.

Se é vostede propietario de parcelas forestais e lla interesaría que as súas parcelas formasen parte dunha Unidade de Xestión Forestal pode facer unha declaración de interese aquí.

Se vostede representa a un conxunto de propietarios que desexan iniciar o proceso de creación dunha UXFOR pode introducir unha pre-solicitud aquí.




[Ver máis](#)




Provincia	Concello	Parroquia	Códigos	Área
Lugo	Alfoz	San Pedro de Mor (San Pedro)	Concentración: 0 Polígono: 101 Parcela: 177	2,10 ha
Lugo	Poz	Noris (San Xaio)	Concentración: 0 Polígono: 40 Parcela: 511	0,21 ha
A Coruña	San Sadurniño	Naralo (Santa Mariña)	Concentración: 0 Polígono: 41 Parcela: 173	0,09 ha

[Ver máis](#)

Nome	Provincia	Lugares	Área
Pedreira	Pontevedra	Pino en O Covelo (Santa Mariña) - Covelo	29,5 ha
Subial	A Coruña	O Alfoz en Subial (Santiago) - Melide	144,4 ha
		Baldemir en San Xosé de Vilarino (San Xosé) - Lebeira	



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<p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>- Origins</li> <li>- Objectives</li> <li>- Requirements</li> <li>- System Architecture</li> <li>- SITEGAL Inf. System: <ul style="list-style-type: none"> <li>- Functionalities</li> <li>- SIT... "in figures"</li> <li>- Future work</li> </ul> </li> <li>- SIUXFor Inf. System: <ul style="list-style-type: none"> <li>- Functionalities</li> <li>- Future work</li> </ul> </li> <li>- Conclusions</li> <li>- Links</li> </ul>	<h2 style="text-align: center;">SIUXFor Information System</h2> <ul style="list-style-type: none"> <li>• Similar objectives than SITEGAL</li> <li>• Same architecture and software tools</li> <li>• Both systems share the same datasets</li> <li>• Working <u>since November 2008</u> (currently only the first stage of the system is publicly available)</li> </ul>
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Solicitudes - Mozilla Firefox

Archivo Editar Ver Historial Marcadores Herramientas Ayuda

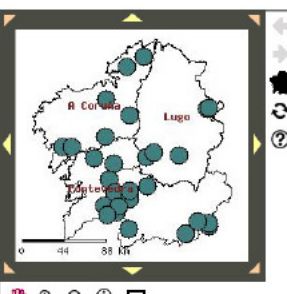
http://www.banategal.gal/ SIUXFor: public list and map of applications for the establishment of UXFORs

Solicitudes

Registrarse

Iniciar sesión

Provincia	Concello	Parcela	Superficie
Barbal	Pontevedra	* Ribeira de Abaixo en Ribeira (Santa Mariña) - Crecente * Os Alboresos en Ribeira (Santa Mariña) - Crecente	191,31 ha
A Hermida, Razamonde e Eiras	Ourense	* Xubin en Razamonde (Santa Mariña) - Cenlle * Razamonde en Razamonde (Santa Mariña) - Cenlle * Xinzo en Eiras (Santa Ouxea) - San Amaro * Tralorfo en Eiras (Santa Ouxea) - San Amaro	81,8 ha
Paradela, Outeiro e Vilanovas	Ourense	* Paradela en Coles (San Xoán) - Coles * Outeiro en Ribela (San Xillao) - Coles * Vilanova en Ribela (San Xillao) - Coles	65,59 ha
Baldariz	Ourense	* Reigoso en Cartelle (Santa Mariña) - Cartelle * Baldariz en Cartelle (Santa Mariña) - Cartelle	85,76 ha
Montes da Erosa	Ourense	* Herosa en Pentes (San Mamede) - Gudiña (A)	79,77 ha



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Parcelas da pre-solicitude - Mozilla Firefox

Archivo Editar Ver Historial Marcadores Herramientas Ayuda

http://www.banategal.gal/ SIUXFor: list of plots of an UXFOR application (private site)

SIUXFor

Inicio uxfor.info

Inicio SIUXFor

O meu perfil

Declaracións de Interese

Pre-solicitudes

Solicitudes

UXFORs


Usuarios

Xestores

Unidades de traballo

Protección de datos

Saír



**Parcelas da pre-solicitude**

- ☒ Parcelas SIXPAC
- ☐ Códigos parcelas (SIXPAC)
- ☐ Catastro
- ☒ UXFOR
  - ☐ Solicitudes (límite externo)
  - ☐ Solicitudes (límite interno)
  - ☒ Pre-solicitudes (límite externo)
  - ☒ Pre-solicitudes (límite interno)
  - ☒ Declaracións de interese
- ☒ Divisións
  - ☒ Entidades singulares

Provincia	Concello	Agregado	Zona concentración	Polígono	Parcela
15	076	0	0	179	258

Esta pre-solicitude ten 4 parcelas

Superficie	Situación	Códigos	Ver detalles	Borrar
5407,36 m²	San Sadurniño - A Coruña Santa Mariña do Morre	Concentración: 0 Polígono: 179 Parcela: 406	✓	✗
7903,56 m²	San Sadurniño - A Coruña Santa Mariña do Morre	Concentración: 0 Polígono: 179 Parcela: 258	✓	✗
San Sadurniño - A Coruña				

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**SIUXFor: details of an UXFOR application (private site)**

**Solicitantes**

- UXFORS
- Usuarios
- Xestores
- Unidades de traballo
- Protección de datos
- Sair

<b>Datos da pre-solicitude</b>	
Número de expediente	PS20091500011
Entregada en papel	Non
Nome da UXFOR	O Valado
Número de propietarios da comisión	33
Lugares:	A Sanguieira en Bardaos (Santa María) (San Sadurniño, A Coruña)
Data de creación	03/02/2009
Última modificación	08/02/2009
Data de recepción	Sen especificar
Comentarios	Sen especificar
Comentarios internos	Sen especificar
Comentarios do usuario	Sen especificar

<b>Memoria do UXFE (Modificar)</b>	
Ficheiro	Sen especificar

<b>Cartografía (Modificar)</b>	
Ficheiro	Sen especificar

<b>Datos do representante da pre-solicitude</b>	
Aínda non se seleccionou un representante. Para facelo, prema aquí	

**parcelas introducidas**

Número de parcelas total	4	Engadir   Ver detalles
Superficie total	38.624,51 m² (3,86 ha)	
Forestal	37.150 m² (3,72 ha)	
Pasteiro	1.474 m² (0,15 ha)	
Número de parcelas forestais	4	
Superficie das parcelas forestais	38.624,51 m² (3,86 ha)	
Superficie forestal	37.150 m² (3,72 ha)	
Número de propietarios total	0	

**Datos calculados parcelas solicitantes introducidas**

Número membros comisión	0	
Número membros comisión non propietarios	0	Engadir
Número de parcelas dos solicitantes	2	
Superficie das parcelas dos solicitantes	25.313,59 m² (2,53 ha)	
Forestal	23.839 m² (2,38 ha)	
Pasteiro	1.474 m² (0,15 ha)	
Número de parcelas forestais dos solicitantes	2	

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## SIUXFor Future Work

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- Incorporation of UXFORs interior zoning: different forest species, firewalls, roads, etc.
- Automatic generation of documents: applications, letters,...
- Storage of a geographic information layer about fires
- Implementation of spatial queries:
  - e.g., distance from UXFORs to buildings
- Map viewer improvements




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<p>FAO Workshop on Land Tenure and Land Consolidation Santiago de Compostela, 9, 10 and 11 of February 2009</p>	<p>Information Systems for the Land Bank of Galicia (BANTEGAL) and the Forest Management Units (UXFOR)</p>
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**Questions?**

**Thanks for your attention**

**Contact:**

**Rafael Crecente**  
*rafael.crecente@usc.es*  
*Land Laboratory*  
*University of Santiago de Compostela*

**Ramón Doallo**  
*doallo@udc.es*  
*Computer Architecture Group (CAG)*  
*University of A Coruña*



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