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Survey123 Tricks of the Trade (Live) Leveraging ArcGIS Living Atlas

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ArcGIS Living Atlas of the World



Agenda

- Introducing Survey123 and Living Atlas
 - And 3 ideas to make them work together!
- Step by Step demonstrations
 - Geo-Calculations
 - Dynamic lists
- A few tips and live Q&A



ArcGIS Survey123

Bringing Together the Power of Forms and GIS

Ask Questions

Intuitive Form Builders
Powerful Smart Form Logic
Location-aware Forms

Get Answers

Web, Desktop & Mobile
Distribute Privately or Publicly
Offline and Online

Take Action

View, Analyze & Share

Connect Information to Apps & Maps . . .
. . . Make Your Data Actionable

Online Surveys

Lead Water Service Line Inventory

Property and contact information

What is the address of the property?
Tip: Configure this address question with a [custom locator](#) so only addresses from your own City or jurisdiction can be entered. This will boost the quality of the address data and simplify data entry.

380 New York St NW, Denver, MT, 59523, USA

What is the approximate construction date?
1961

What is your relationship to the property?
380 New York St NW, Denver, MT, 59523, USA

Owner Renter / Tenant

What is your name?
Peter Awesome

Email contact*
jasonmoo@gmail.com

Phone number
(233) 970-0111

Back Next

Mobile Forms

MS4 Outfall Inspection Form

Background Information

Permittee Name: Ciantro Township NPDES Permit No: CIL12345
Date Of Inspection: Saturday, 1 April 2023 Outfall ID No: 1946257
Outfall location: 34°3'N 117°12'W

Inspector Names:
Joe Adams
Alicia Cresias
Paul Red
Christa Bol

Land Uses In Outfall Drainage Area:
 Industrial
 Commercial
 Open Space
 Urban Residential
 Suburban Residential
 Other

Dry Weather Inspection?
 Yes No

Date Of Previous Precipitation: Saturday, 1 April 2023
Amount Of Previous Precipitation: 4 inches

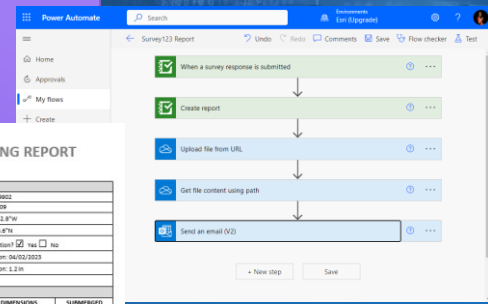
1 of 4

Configurable Reports

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION					
Permittee Name: Ciantro Township	NPDES Permit No: 9922	Date of Inspection: 04/01/2023	Outfall ID No: 1946257	Latitude: 34°02'16.67"N	Longitude: 107°12'16.67"W
Land Uses in Outfall Drainage Area (Select All)					
<input checked="" type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Urban Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Suburban Residential	<input type="checkbox"/> Open Space	<input type="checkbox"/> Other
Inspector Name(s): Joe Adams, Paul Red					
OUTFALL DESCRIPTION					
TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED	
Closed Pipe	Steel	Box	33in	with Sediment	
Dry weather Flow Present at Outfall During Inspection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
DRY WEATHER FLOW EVALUATION					
Does the dry weather flow contain odor? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes					
Does the dry weather flow contain an odor? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes					
Is there an observed change in the receiving waters pH, specific conductance, or temperature?					
Does the dry weather flow contain floating solids, silt, sludge or substances that result in deposits? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes					
DRY WEATHER FLOW PHOTOS					
				Amount of Precipitation: 4 inches	
Historical Outfall: 2000-2011, 2013-2015, 2017-2018					
Historical Outfall: 2000-2011, 2013-2015, 2017-2018					
SEWER DISCHARGES					
Is the dry weather flow an EOC discharge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

No-code Automation



Citizen Science

Routine Asset Inspections

Asset Inventories

Incident Reports

Permit Applications

Damage Assessment

Safety Checklists

Community Engagement

Compliance

New & Improved

- Geo-Calculations
- AI Smart Assistants
- Office 365 Integration
- Multi-lingual Forms
- Location Sharing

Coming

- More AI Smart Assistants
- Next Generation Mobile App

Digitally Transforming Business Workflows

ArcGIS Living Atlas of the World

The screenshot displays the ArcGIS Living Atlas of the World content page. The top navigation bar includes 'Content', 'My Content', 'My Favorites', 'My Groups', 'My Organization', and 'Living Atlas'. A search bar is located below the navigation. The left sidebar contains filters for 'Categories' (Trending, Basemaps, Imagery, Boundaries, People, etc.), 'Regions' (Taiwan, Thailand, Tunisia, etc.), and 'Item type' (Maps, Layers, Scenes, etc.). The main content area shows a grid of 16 map items, each with a thumbnail, title, and metadata. The items include:

- 2018 Popular Demographics (ESRI)
- USA Census 2020 Redistricting B...
- Bureau of Labor Statistics Month...
- National Shelter System - Open ...
- ACS Race and Hispanic Origin V...
- ACS Poverty Status Variables - B...
- CDC Social Vulnerability Index 2...
- OpenStreetMap Amenities for N...
- PLACES: Local Data for Better H...
- USA Census 2020 Redistricting T...
- ACS Disability Status Variables - ...
- ACS Language Spoken at Home ...

The screenshot shows the 'Add layer' dialog box in ArcGIS. The 'Living Atlas' dropdown menu is open, showing options: 'My content', 'My favorites', 'My groups', 'My organization', 'Living Atlas', and 'ArcGIS Online'. The 'Living Atlas' option is highlighted with a blue border. The background shows a list of layers, including 'Khaki Basemap', 'John Nelson', 'Corporate', 'LV95 Swiss Topographic (with Contours)', 'Mapa Base Argentina', 'Administrador Aeroterrea', 'Imagery Transition: Base', 'Andy Skinner', and 'Formations géologiques à 1/1 000 000 - France métropolitaine'.

ArcGIS Living Atlas of the World is the foremost collection of geographic information from around the globe. It includes maps, apps, and data layers to support your work.

Demo

Quick Living Atlas Tour





ArcGIS Living Atlas and Survey123

The Living Atlas makes available thousands of ready-to-use GIS layers.

Use them to make your forms geographically smarter and more effective

Use Living Atlas content to:

1. Make your Survey123 maps more compelling
2. Automatically geo-enrich your survey data
3. Populate static and dynamic lists

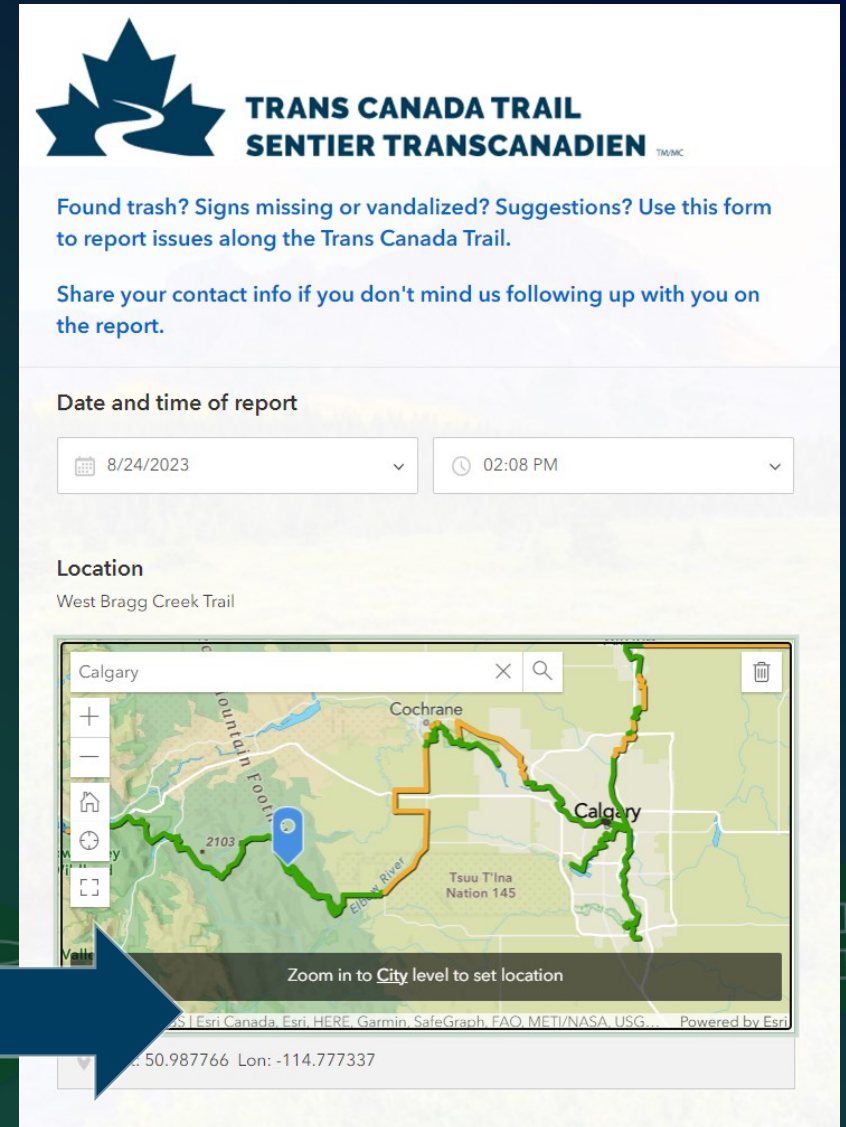


Better maps for your Survey123 forms

- Use ready-to-use web maps from the Living Atlas
- Or add content from the Living Atlas to your own!
- Make your Survey123 form maps more compelling
- Provide better context to respondents

This form is used by hikers to report problems along the Trans Canada Trail
The map uses the Outdoor basemap from the ArcGIS Living Atlas

- Looks great
- Shows accurate contour lines
- Provides a great backdrop to the trail layer



TRANS CANADA TRAIL
SENTIER TRANSCANADIEN TM/MC

Found trash? Signs missing or vandalized? Suggestions? Use this form to report issues along the Trans Canada Trail.

Share your contact info if you don't mind us following up with you on the report.

Date and time of report

8/24/2023 02:08 PM

Location
West Bragg Creek Trail

Calgary

Mountain Foot
Cochrane
Calgary
Tsuu T'Ina Nation 145
Elbow River

Zoom in to City level to set location

50.987766 Lon: -114.777337

Geo-calculations in Survey123 forms using Living Atlas content

- Hundreds of GIS layers available with authoritative and up to date content
- Enrich your survey data using geo-calculations

This form is used to document oiled wildlife after an oil spill

A geo-calculation automatically uses the World Database on Protected Areas (WDPA) to extract the name of the coastal protected area where the sighting

Took place

Report Oiled Wildlife

Use this form to report the location of oiled wildlife affected by the recent oil spill event.

Warning: DO NOT pick up, touch or approach oiled wildlife.

The best help you can provide is to report observations of oiled wildlife immediately using this form.

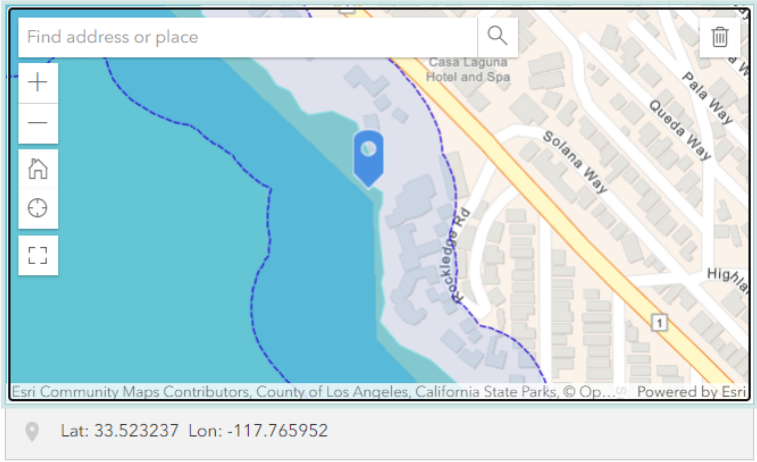
To avoid oiled wildlife feeling threatened, never get closer than 30 feet.

Report date and time

8/24/2023 02:31 PM

Location of oiled wildlife*

Laguna Beach State Marine Reserve



Photos*

Photograph wildlife from a safe distance.

Live Demo

Living Atlas powering
Geo-calculations and dynamic lists





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- A few tips and live Q&A



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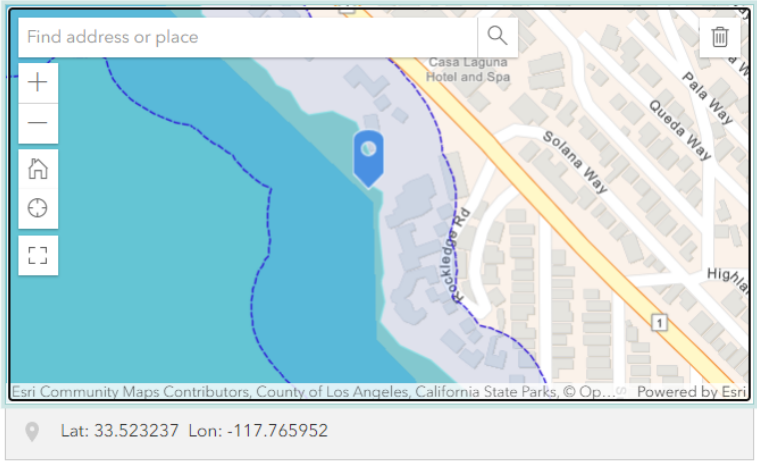
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Demo

With the web designer

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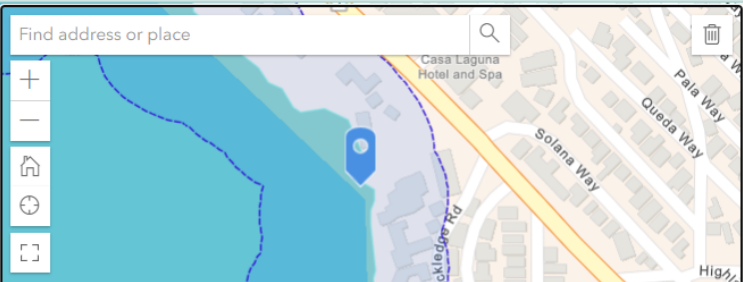
To avoid oiled wildlife feeling threatened, never get closer than 30 feet.

Report date and time

Location of oiled wildlife*

Laguna Beach State Marine Reserve

Find address or place





Demo

For Survey123 Connect ninjas

Report Oiled Wildlife

Use this form to report the location of oiled wildlife affected by the recent oil spill event.

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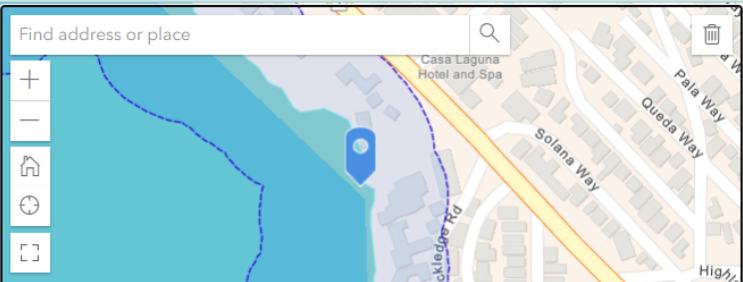
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Location of oiled wildlife*

Laguna Beach State Marine Reserve





pulldata("@layer")

- Use pulldata("@layer") to query ArcGIS layers and tables
- Example: Calculate the name of the ecoregion for a given location

type	name	label	calculation
geopoint	location	Location	
text	ecoregion	Ecoregion	<code>pulldata("@layer","getValueAt","attributes.ECO_NAME","https://services.arcgis.com/P3ePLMYs2RVChkJx/ArcGIS/rest/services/Resolve_Ecoregions/FeatureServer/0",\${location})</code>

- See the [Query a Feature Layer help topic](#) for more details

Demo

With Survey123 Connect

Report Oiled Wildlife

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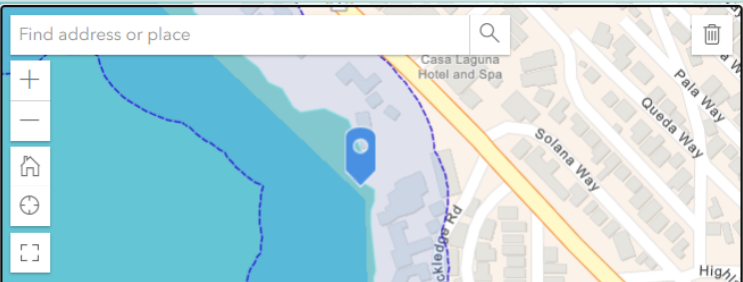
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Find address or place







Considerations

- Not all layers in the Living Atlas can be used for calculations
 - Feature layers and map layers with query capabilities: Yes
 - Everything else (image services, scenes, tiled layers...): No
- Calculations do not work if you are disconnected
 - Not a problem when using a Survey123 web form
 - Important consideration when using the mobile app
- Always check the Terms of Use
 - Some layers require an ArcGIS login (cannot be shared publicly)
 - Read liability disclaimers and credit attribution requirements





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Populate lists using Living Atlas content

- Administrative areas (Countries, Counties, Provinces...)
- Nearby weather stations, fire incidents...

This form is used to document invasive plants
The list of species feeds from the US Forest Service National Invasive Plant
Inventory Protocol. Only species within 30 miles of the user's location as shown

Where did you see the invasive species?*
County: San Bernardino County TNC Region: California South Coast

Find address or place

Lat: 34.202909 Lon: -117.118851

If known, what is the common name

The list below shows all invasive plant species from the [Inventory Protocol](#), within 30 miles of your sighting.

Please upload up to 3 photographs

1

Contact information

Sharing your contact information is optional

What is your name?

- Acacia
- Acacia baileyana
- Agropyron cristatum
- Ailanthus altissima
- Alcea rosea
- Alliaria petiolata
- Alopecurus pratensis
- Amaranthus albus**
- Amaranthus blitoides
- Anagallis arvensis
- Apium graveolens
- Arundo donax
- Atriplex semibaccata
- Avena barbata
- Avena fatua
- Bassia scor...
- Brassica n...
- Caneftortii

Demo

With the web designer

Where did you see the invasive species?*

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- Alcea rosea
- Alliaria petiolata
- Alopecurus pratensis
- Amaranthus albus
- Amaranthus blitoides
- Anagallis arvensis
- Apium graveolens

Please upload up to 3 photographs



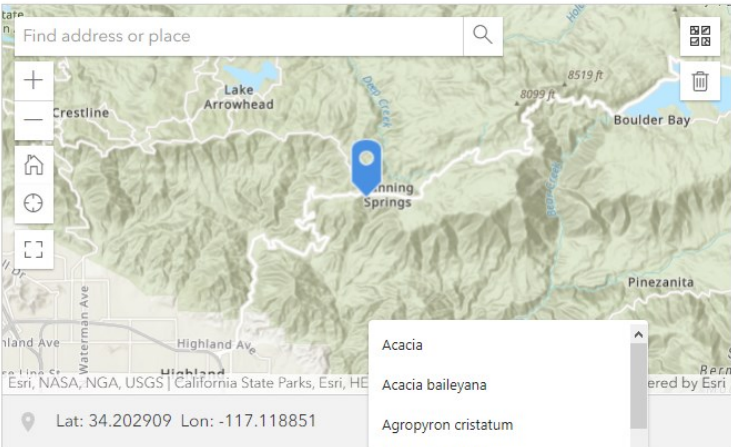
Demo

With Survey123 Connect

Where did you see the invasive species?*

County: San Bernardino County TNC Region: California South Coast

Find address or place



Lat: 34.202909 Lon: -117.118851

If known, what is the common name

The list below shows all invasive plant species per the [California Invasive Plant Protocol](#), within 30 miles of your sighting.

- Acacia
- Acacia baileyana
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- Ailanthus altissima
- Alcea rosea
- Alliaria petiolata
- Alopecurus pratensis
- Amaranthus albus
- Amaranthus blitoides
- Anagallis arvensis
- Apium graveolens

Please upload up to 3 photographs of the species



search appearance

- Use the search appearance to populate a list from an ArcGIS layer query
- Example: Populate a list with all World countries

type	name	label	appearance
select_one countries	country	Country	search("countries?url=https://services.arcgis.com/P3ePLMYs2RVChkJx/ArcGIS/rest/services/World_Countries/FeatureServer/0")

- See the [Search help topic](#) for more details

list_name	name	label	media
countries	COUNTRY	COUNTRY	

► survey choices settings Version Question types Appearances Field

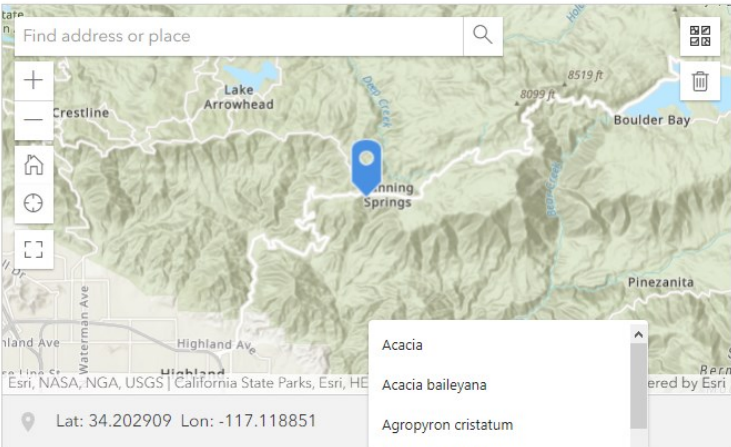
Demo

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- Anagallis arvensis
- Apium graveolens

Please upload up to 3 photographs



Live Q&A



Resources

- Recording of this webinar and Q&A will be posted in [Esri Community](#)
- Using Survey123 and Living Atlas [blog post](#)
- Survey123 Tricks of the Trade: Dynamic lists (Web Designer) [blog post](#)
- Survey123 Tricks of the Trade: *pulldata("@layer")* [blog post](#)
- Building dynamic lists with the *search appearance* [blog post](#)
- Configuring choice filters with XLSForm [blog post](#)
- [Query a Feature Layer help topic](#)
- [Search help topic](#)



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