

# Available Monitoring Data Sources

Ecology LandWatch offers a suite of data sources to assemble a customized monitoring and management system. Each data source is described, evaluated for its relevance to risk management, and defined for frequency of updates. Data sources can be layered, where multiple data sources support a common risk management objective. For example, change in ownership and land development together reveal a future development project. Data sources may also be placed into multiple monitoring zones - certain data sources may operate at

different buffer distances. For example, ownership might be monitored across the entirety of a managed parcel, while monitoring for building permits or street opening occurs just in urban areas. The following categorized data source listing is a menu including custom data sources. General implantations guidance completes the data source overview on the back page. The Ecology LandWatch team is ready to configure and implement a program of monitoring and management customized for your managed site.

## Real Estate Activity

For Sale Listings



Comprehensive real estate sales listing targeted to commercial and residential transactions.  
**Relevance.** Identifies potential land sales at identified property buffer zones.  
**Frequency.** Ordinarily compiled continuously (typically daily).

Foreclosure

Public pre-foreclosure and foreclosure notices from commercial and/or government sources.  
**Relevance.** Identifies potential or recent foreclosure sales As an indicator of future land use change.  
**Frequency.** Ordinarily compiled weekly.

Property Transfer

Property records and tax assessor records from government and/or commercial sources.  
**Relevance.** Identifies a property ownership change and allows notice to new owners in right-of- way.  
**Frequency.** Ordinarily compiled monthly.

## Excavation Activity

Excavation Clearance



Excavation events via direct feed from state One Call centers. The service can rely on an existing one-call data service via forwarding of incoming tickets.  
**Relevance.** Augmenting current one call service by profiling callers' development activities.  
**Frequency.** Ordinarily compiled twice per day.

Dredging

Public records of federal and/or state government permits for dredge or fill activities.  
**Relevance.** Identifies proposed dredging activities that could compromise natural resource assets.  
**Frequency.** Ordinarily compiled monthly.

Street Opening Permits

Public records of local government permits issued for excavation, such as grading and street opening permits.  
**Relevance.** Identifies excavation, trenching, earth moving, and similar activities.  
**Frequency.** Ordinarily compiled weekly.

## Land Development

Building Permits



Public records of city or county building permit issuances, available from commercial and/or government sources.  
**Relevance.** Indicates below or aboveground structure or general construction.  
**Frequency.** Ordinarily compiled weekly.

Land Development

Public records from government and commercial sources as well as news sources related to development applications, construction bids, zoning variances, entitlements, and environmental reviews associated with land development projects.  
**Relevance.** Identifies anticipated land uses changes and new development projects.  
**Frequency.** Ordinarily compiled monthly.



## Sensitive Land Use

Public records of new occupancy licenses or other type of government approvals, available from commercial and/or government sources to track new childcare centers, schools and hospitals.  
**Relevance.** Indicates surrounding land use activity that may affect adjacent natural resources.  
**Frequency.** Ordinarily compiled monthly.



## Water Wells

Public records of water well permits and/or completion reports.  
**Relevance.** Indicates new groundwater use and environmentally sensitive areas triggering spill contingency plan development.  
**Frequency.** Ordinarily compiled monthly.



## News

Review of online local news sources based on select keywords.  
**Relevance.** Discovery of local gatherings or development announcements.  
**Frequency.** Ordinarily compiled weekly.



## Environmental Releases

Public records of sites identified as requiring cleanup or remediation by state or federal agencies, available from government sources.

**Relevance.** The existence of neighboring cleanup sites may impact natural resource management.

**Frequency.** Quarterly to annually.



## Natural Hazards

Continuous monitoring of stream flow and earthquake hazards.

**Relevance.** Notification of threat of damage to property by either stream flooding or seismic activity.

**Frequency.** Hourly updates to Ecology LandWatch.



## Affirmative Obligations

Reminds of affirmative monitoring duties (e.g., inspections, certifications, notices, etc.).

**Relevance.** Client-specific commitments for reporting, monitoring and maintenance with a geographic attribute.

**Frequency.** Obligations reviewed daily.



## Inspection

Mobile web application allowing for collection of notes, photos, videos, and signatures for use in the field when inspecting property.

**Relevance.** Streamlines inspection and syncs with Ecology LandWatch monitoring results.

**Frequency.** As determined for compliance or risk management.



## Aerial Change Detection

Periodic targeted aerial imagery and then change detection monitoring.

**Relevance.** Identifies changes across land tracts including new structures, excavations, and land disturbances. Provides record of site conditions.

**Frequency.** Annual frequency, typically in summer.

## Custom Data Sources

Client specified data sources present in government, third party sources or internal client data sources.

**Relevance.** Any land activity or use data source relevant to site management can be requested for regular collection and review. Additionally, this service provides for assimilation of internal data sources that can inform the alert management processes.

**Frequency.** As determined by client.

## Implementing Ecology LandWatch

Ecology LandWatch is a versatile data service. A client builds a customized monitoring and management system by choosing appropriate data sources, mapping one-to-many monitoring areas with associated data source, honing monitoring criteria to filter land activity data, and then setting follow-up actions when the criteria are exceeded.

- **Monitoring Areas.** One to many monitoring areas can be formed and associated with a data source. The area of coverage is mapped as a polygon. Monitoring areas may be layered with different data sources associated.
- **Monitoring Criteria.** Each data source has an alert criteria. The criteria are applied to filter land activities where alerts are generated only when criteria are exceeded. For example, building permits can be limited to only subsurface activities.
- **Alert Follow-up.** Follow-up activities are associated with each data source and direct actions if a monitored event exceeds the monitoring criteria. Often follow-up is merely transmitting the alert to the client. Other follow-up can be for Ecology LandWatch to notify a stakeholder with an advisory.
- **Alert Escalation.** One to many parties in a client organization may be alerted following escalation rules. Alerts are “closed” to indicate the at-risk situation has been managed.
- **Advisory Services.** Customized advisories applying information inside a land activity event can be created. These advisories can be generated as PDF, and then faxed or printed into automatically mailed letters. Notice of an advisory can be transmitted by SMS messaging.
- **Projects.** Projects are an alternative approach to managing land activity events. The presumption of a “project” is a collection of related land activities that would culminate in a single land development. Ownership change, entitlements, and permitting would not generate individual alerts, and instead be captured in a project record. Projects are available as a tab within the Ecology LandWatch dashboard.
- **Data Services and Reporting.** Data services can include the custom preparation of RESTful data responses or Web Feature Service mapping response. Customized periodic reports can be generated to the client.