

# Joint Base Lewis-McChord (JBLM) Joint Land Use Study (JLUS)



## *Executive Summary*



October 2015

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## Attachments

Outreach Plan (July 2014)  
Existing Conditions Report (September 2015)  
Land Use Compatibility Analysis (September 2015)  
Implementation Plan (September 2015)

# Executive Summary

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## 1. Joint Land Use Study Purpose and Background

### Joint Land Use Study Purpose

The Joint Base Lewis-McChord (JBLM) Joint Land Use Study (JLUS) is a collaborative process among local, state, and regional jurisdictions; the public; federal, state, and regional agencies; and military installations within the South Puget Sound region of the State of Washington. The JLUS presents recommendations for consideration by local and state governments that promote development compatible with military presence and protecting public health, safety, and welfare while also protecting the ability of the military to accomplish its vital training and operational missions presently and over the long-term. The study is designed to create dialogue around complex issues such as land use, economic development, infrastructure, environmental sustainability, and the operational demands and mission changes of military entities. The intent of the study is to highlight common interests such as economic growth, more efficient infrastructure, healthier environments, improved quality of life, and the protection of Department of Defense (DoD) and civilian investments and missions.

The JLUS process emphasizes coordination and communication as a way to strengthen the relationship among the study area partners and to build a framework for successful implementation and monitoring of recommendations around shared goals. The Final JLUS Report provides a series of recommendations to guide future decisions and policy actions by public agencies, military installations, and other partners. Recommendations are not binding, but participants are asked to make a good faith effort to implement those recommendations.

The 2006 OEA Joint Land Use Study Program Guidance Manual (OEA 2006) notes that the “JLUS is produced by and for the local jurisdiction(s). It is intended to benefit both the local community and the military installation...”

The Guidance Manual further defines JLUS program objectives as twofold:

- *“To encourage cooperative land use planning between military installations and the surrounding communities so that future civilian growth and development are compatible with the training or operational missions of the installation; and*
- *To seek ways to reduce the operational impacts on adjacent land.”*

The JBLM JLUS is a strategic plan that provides specific implementation actions to ensure compatible civilian growth and development. The JLUS presents recommendations for consideration by local and state governments that promote compatible development and protect public health, safety, and welfare while also protecting the ability of the military to accomplish its vital training and operational missions currently and over the long term.

## Study partners/process

The JBLM JLUS was made possible through a grant from the DoD Office of Economic Adjustment (OEA) to the City of Lakewood and coordinated by the SSMCP. The study area is a geographically large and diverse region, featuring a complex pattern of land tenure statuses combined with varied economic and resource interests, and multiple operational and mission needs.

To reflect the complexity of the study area, a wide array of partners are involved in the study process, including but not limited to:

- DoD OEA
- JBLM Headquarters and staff
- Washington State Department of Commerce
- Nisqually Indian Tribe
- Thurston Regional Planning Council (TRPC)
- Pierce County
- Thurston County
- City of DuPont
- City of Lacey
- City of Lakewood
- City of Rainier
- City of Roy
- Town of Steilacoom
- City of Tacoma
- Tacoma-Pierce County Chamber
- Tacoma-Pierce County Health Department
- City of Yelm

The JLUS is an inclusive, community-driven process designed to engage residents, local businesses, landowners, and others beyond the list of formal study participants. The JLUS was conducted to identify strategies that enable meaningful input from the broadest possible cross-section of stakeholders and affected communities.

## *JLUS Committees*

JLUS stakeholders are organized into three levels of formal engagement, as follows: the JLUS Subcommittee (Subcommittee) of the SSMCP, the Technical Working Group (TWG), and the Elected Officials Council (EOC). The JLUS was prepared with the input and guidance of these groups.

## *Stakeholder and Public Engagement*

In addition to the input gathered during committee meetings, information was solicited from various stakeholders, Subject Matter Experts (SMEs), and the general public. Individual

interviews were conducted with stakeholders and SMEs, a small group meeting was held with the Nisqually Indian Tribe, and six public open houses were held.

### Study Area

The JLUS study area is defined as the area within 2 miles of the JBLM installation boundary, as shown in Figure 1. The 2-mile study area encompasses the communities of Tacoma, Lakewood, University Place, Steilacoom, DuPont, and unincorporated areas within Pierce County; Lacey, Yelm, Rainier, Roy, and unincorporated areas within Thurston County; and the Nisqually Indian Reservation. Camp Murray, which is home to the Washington National Guard, is within the study area as well. The Yakima Training Center (YTC), which is under the administration of JBLM, is not considered within the study area.

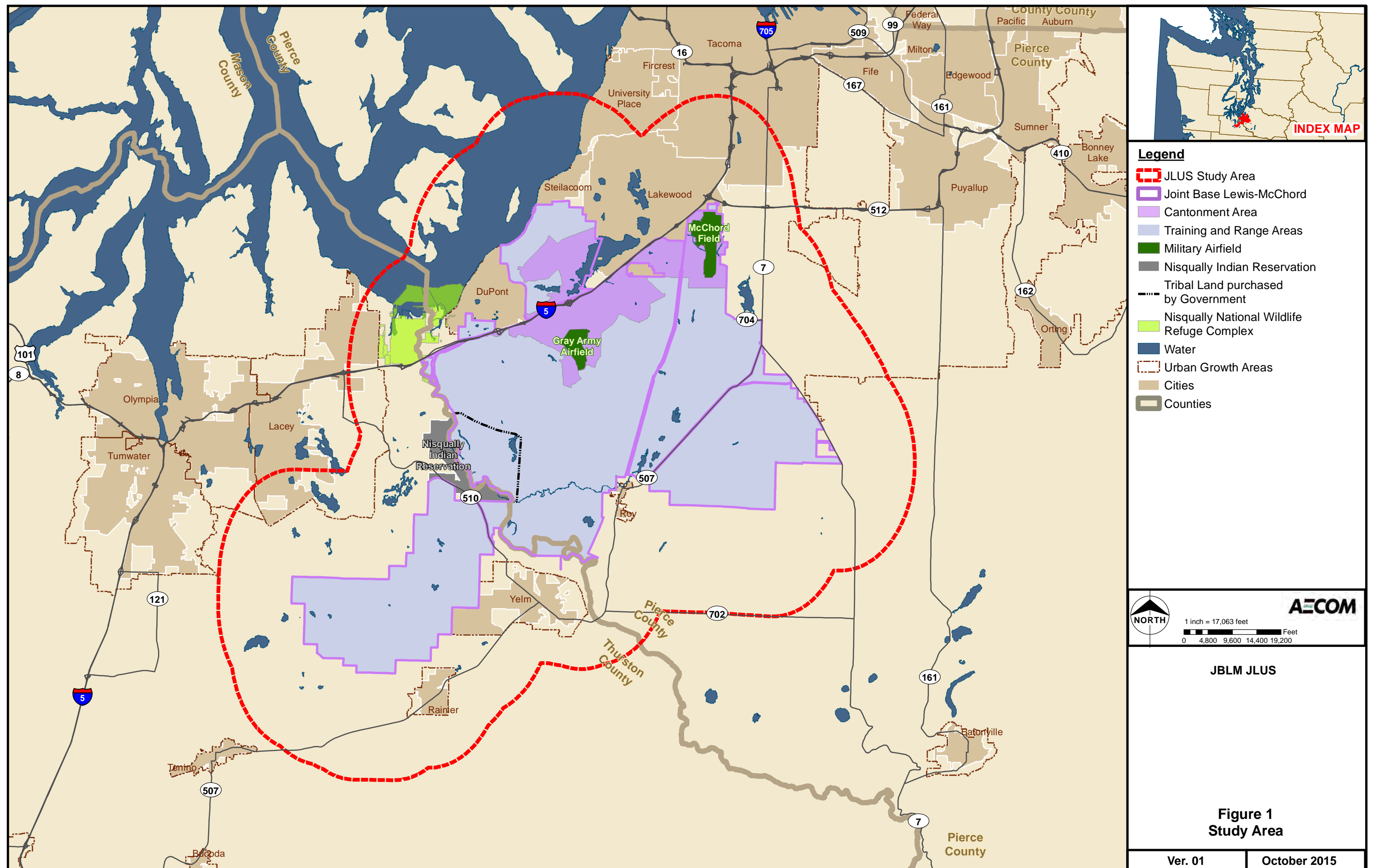
The JLUS study area is situated within the south Puget Sound region and encompasses a diverse geographic area. The study area is bisected by I-5, the major transportation corridor in western Washington. The western portion of the study area is characterized by a high degree of urbanization and population density. The eastern and southern portions of the study area contain rural areas, including agricultural and residential areas, forested and prairie land, several small urban areas, and the Nisqually Indian Reservation. A diversity of natural areas exists throughout the study area, including Puget Sound itself, and the Nisqually National Wildlife Refuge.

### Joint Base Lewis-McChord Profile

JBLM is the largest military installation on the west coast, encompassing over 90,000 acres including the main cantonment area (approximately 10,000 acres) and close-in training ranges (approximately 80,000 acres). JBLM was formally established in 2010, combining Fort Lewis and McChord Air Force Base into a single administrative unit. JBLM is home to the U.S. Army I Corps and 7th Infantry Division, the U.S. Air Force 62nd Airlift Wing, Madigan Army Medical Center, 1st Special Forces Group, U.S. Navy and U.S. Marine Corps elements, and other commands and tenant organizations. JBLM is a major economic engine in Washington State and, as of 2012, is the second largest employer in the state and the largest employer in Pierce County. As of March 2015, the installation serves over 150,000 people on a regular basis, including:

- 40,976 military service members
- 17,521 DoD civilians
- 47,303 military family members
- 32,064 local retirees

JBLM is a premier power projection platform with many strategic advantages, including its location on the Pacific Rim, home to the I Corps and its historical Asia/Pacific focus, deep water port access, global airlift capabilities, and extensive training ranges.



## 2. Land Use Compatibility

The JLUS for JBLM is a strategic plan that provides specific implementation actions to ensure compatible civilian growth and development in the vicinity of JBLM. The JLUS presents recommendations for consideration by local and state governments that promote compatible development and to protect public health, safety, and welfare while also protecting the ability of the military to accomplish its vital training and operational missions both now and over the long term.

This JLUS, in part, builds upon the results of prior studies, including the 2010 JBLM Growth Coordination Plan (GCP) and the 1992 McChord Air Force Base (AFB) and Fort Lewis Joint Land Use Study. Since the 1992 JLUS was completed, the two installations have been combined into a joint base and grown considerably, missions have changed, and significant urban growth has occurred adjacent to or near JBLM. While some specific compatibility issues identified in the previous (1992) JLUS have been resolved and some others are no longer relevant, several persistent issues remain that are being addressed in the 2015 JLUS.

Most current land uses around JBLM do not have negative impacts on military capabilities; however, some ongoing and potential new or future areas of concern were identified through the current JLUS process. Continued collaboration is needed between local jurisdictions and JBLM to develop and implement regional solutions to these issues, and to support the military's ability to carry out its mission requirements today and in the future.

The purpose of the Land Use Compatibility Analysis report is twofold:

- To conduct quantitative and qualitative analyses to identify existing or potential incompatible land uses between nearby communities and JBLM.
- To identify preliminary strategies to address the incompatibilities identified in the analysis.

The Land Use Compatibility Analysis is structured around the following issues:

- Urban growth
- Aircraft safety
- Noise from military operations
- Threatened and endangered prairie species and habitat
- Regional transportation impacts
- Trespass and unauthorized access to JBLM range and training lands
- Communication and coordination

The consultant team developed a five-prong definition of compatibility, based on OEA JLUS guidance, to guide this land use compatibility analysis for the JLUS. For the purposes of the JBLM JLUS, compatible uses are defined as land uses that:

- Do not interfere with military training and operations.
- Include civilian and JBLM land uses that exist harmoniously alongside each other.
- Do not expose people to undue safety risks or nuisance.
- Maintain quality of life.
- Balance safety, growth, and development.

Compatibility issues arise when land uses do not reflect this definition. Compatibility issues can vary depending on types of land uses and exposures, and may evolve over time. The land uses listed below may be incompatible when located near military training and operational activities.

- Noise-sensitive uses, such as housing, schools, medical facilities or places of worship, and uses that cannot be readily sound-attenuated, such as manufactured housing.
- Uses that concentrate people (certain higher residential densities, schools, theaters).
- Uses that can interfere with safe air navigation, such as tall structures; activities that emit electrical currents that may impair aircraft equipment; or activities that throw off excessive light, smoke, or dust and may impair pilot vision.
- Uses that attract birds and other wildlife that can interfere with safe aviation.

The tables below represent a high-level summary of detailed federal guidelines. Decisions about land use compatibility are not always “black and white,” and there are some grey areas where compatibility is influenced by community context, site conditions, or other factors. Federal guidelines referenced in this analysis are advisory. It is the responsibility of local jurisdictions to make policy and regulatory decisions regarding land uses under their jurisdiction.

Table 1 shows the compatibility of various types of land uses in areas where there is risk of aircraft accident, and Table 2 shows the same for areas where there is risk of public nuisance complaint due to noise exposure. Land uses shown in red are categorized as incompatible within the given zones, meaning that they are not recommended based on federal compatibility guidance, and their impacts are significant enough that mitigation may not be effective. Uses depicted in yellow are categorized as conditionally compatible and may warrant mitigation measures, such as noise attenuation or real estate disclosure, to reduce conflicts. Land uses shown in green are categorized as compatible with nearby military operations and training activities.



**Table 1. Land Use Compatibility Summary: Aircraft Safety.**

Land Use	Clear Zone (CZ)	Accident Potential Zone I (APZ I)	Accident Potential Zone II (APZ II)
Single-family Detached	Incompatible	Incompatible	Conditionally Compatible
All Other Residential	Incompatible	Incompatible	Incompatible
Mixed-Use Center	Incompatible	Incompatible	Conditionally Compatible
Light Commercial	Incompatible	Conditionally Compatible	Compatible
Heavy Commercial	Incompatible	Incompatible	Compatible
Light Industrial	Incompatible	Compatible	Compatible
Heavy Industrial	Incompatible	Incompatible	Compatible
Institutional/Public Use	Incompatible	Incompatible	Incompatible

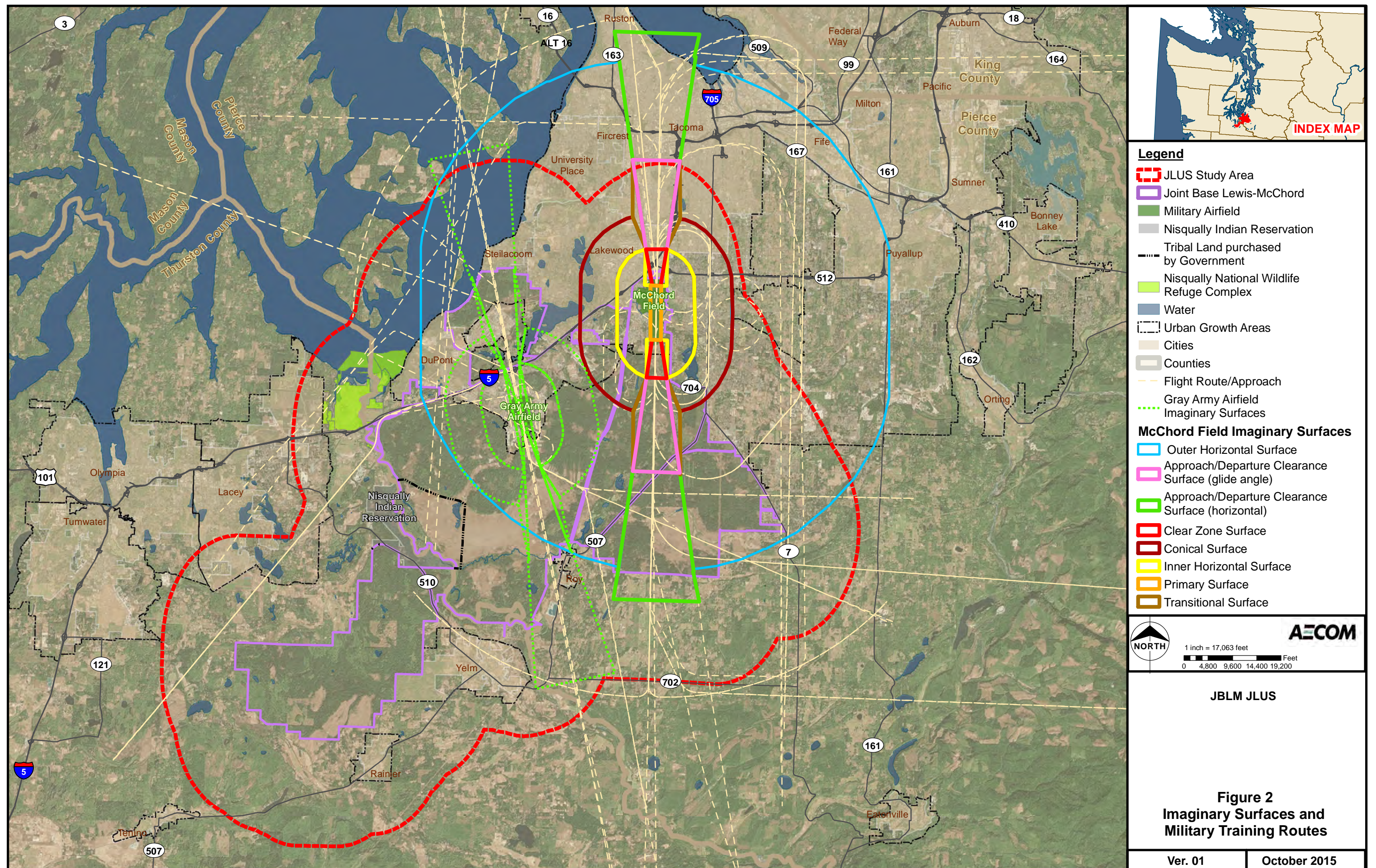
Source: This table summarizes land use compatibility guidance from the Land Use Compatibility Guidelines for APZs (DoD 1977), Department of Defense Instruction 4165.57, Air Installations Compatible Use Zones, The Air Force Handbook 32- 7084 AICUZ Program Manager's Guide (DoD 1999) and UFC 3-260-01.

**Table 2. Land Use Compatibility Summary: Military Operational Noise.**

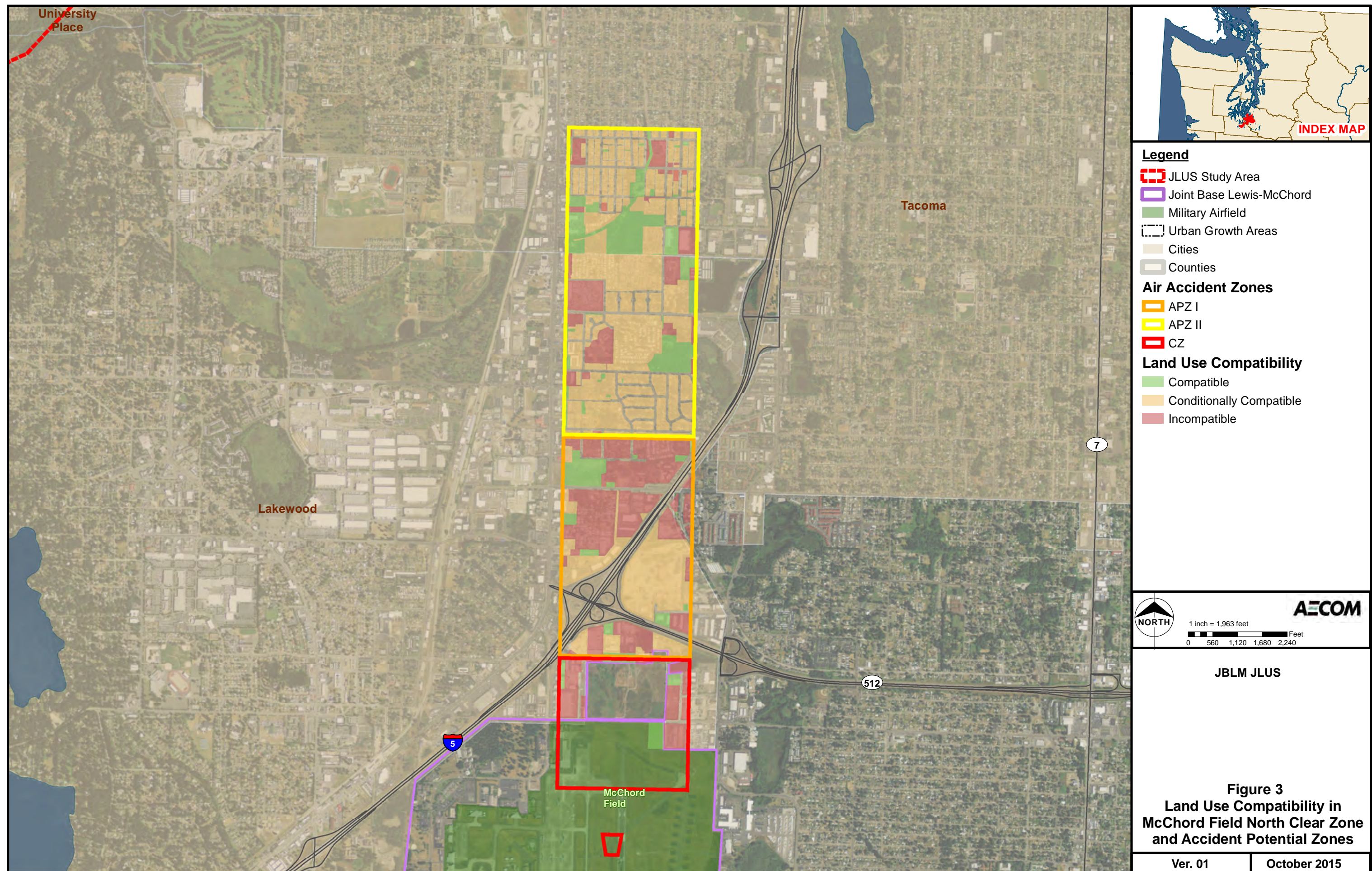
Land Use	Aircraft Noise Zone III: >75 DNL dBA (Not recommended w/ any noise-sensitive uses)	Aircraft Noise Zone II: 65-75 DNL dBA (Normally not recommended with noise-sensitive uses)	Aircraft Noise Zone I: <65 DNL dBA (Generally acceptable with any noise-sensitive uses)	Large Weapon CDNL Noise Zone III: >70 CDNL dBC (Incompatible with noise sensitive uses)	Large Weapon CDNL Noise Zone II: 62-70 CDNL dBC (Normally incompatible with noise-sensitive uses)	Large Weapon CDNL Noise Zone I: <62 CDNL dBC (Compatible with most noise-sensitive uses)	JBLM Firing Range Large Weapon PK15(met) Noise Zone: 115-130 dBP (Noise-sensitive uses are discouraged)	JBLM Firing Range Large Weapon PK15(met) Noise Zone: >130 dBP (Noise-sensitive uses are strongly discouraged)
All Residential	Incompatible	Incompatible	Conditionally compatible	Incompatible	Incompatible	Conditionally Compatible	Incompatible	Incompatible
Commercial	Conditionally compatible	Conditionally compatible	Compatible	Conditionally compatible	Conditionally compatible	Compatible	Conditionally compatible	Conditionally compatible
Industrial	Conditionally compatible	Conditionally compatible	Compatible	Conditionally compatible	Conditionally compatible	Compatible	Conditionally compatible	Conditionally compatible
Institutional /Public Use	Incompatible	Incompatible	Conditionally compatible	Incompatible	Incompatible	Conditionally Compatible	Incompatible	Incompatible

Source: This table summarizes land use compatibility guidance from several sources, including The Federal Interagency Committee on Urban Noise Guidelines for Considering Noise in Land Use Planning (FICUN 1980), the Land Use Compatibility Guidelines for APZs (DoD 1977), the Air Force Handbook 32- 7084 AICUZ Program Manager's Guide (DoD 1999), and Army Regulation 200-1 (DoD 2007).

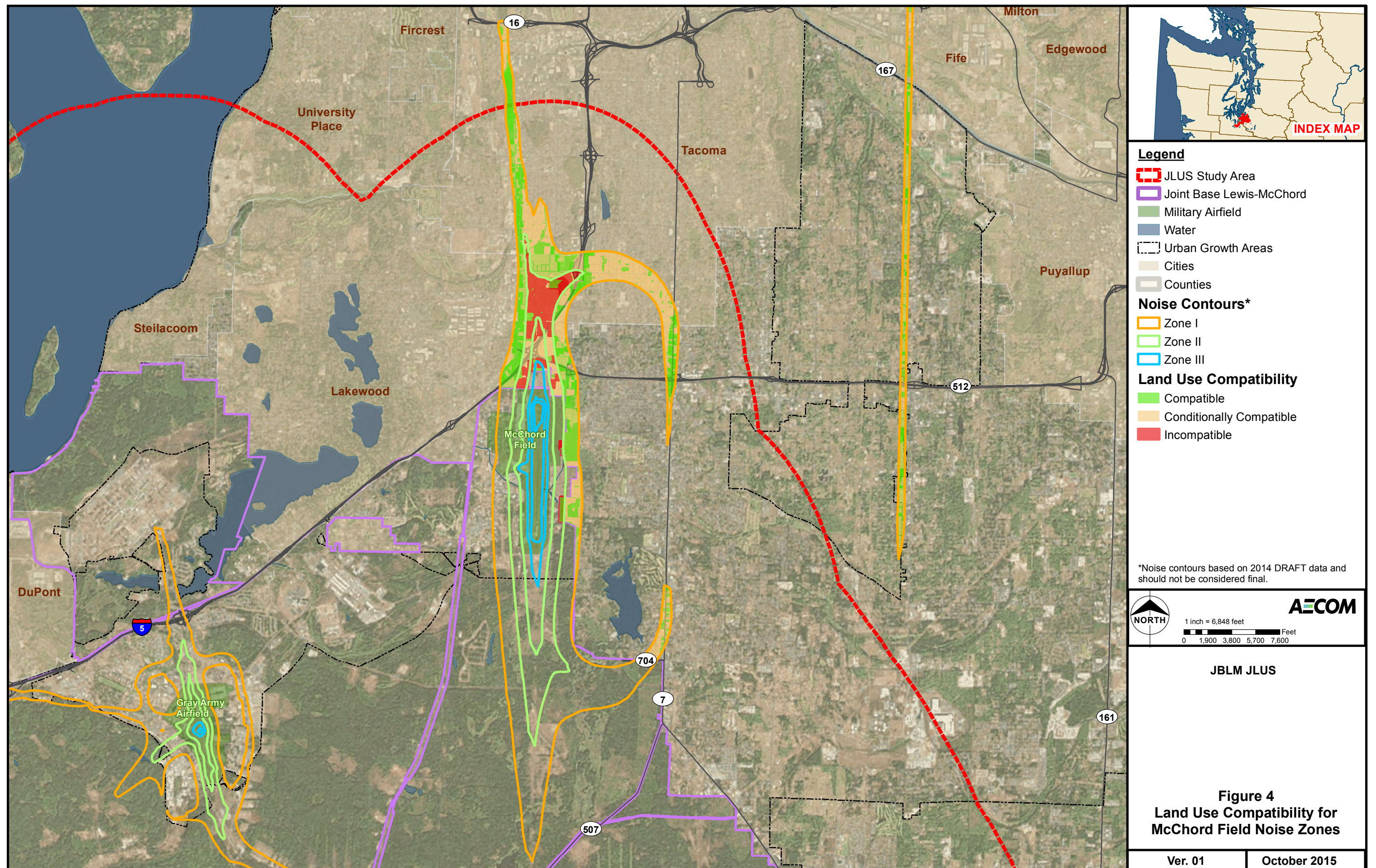




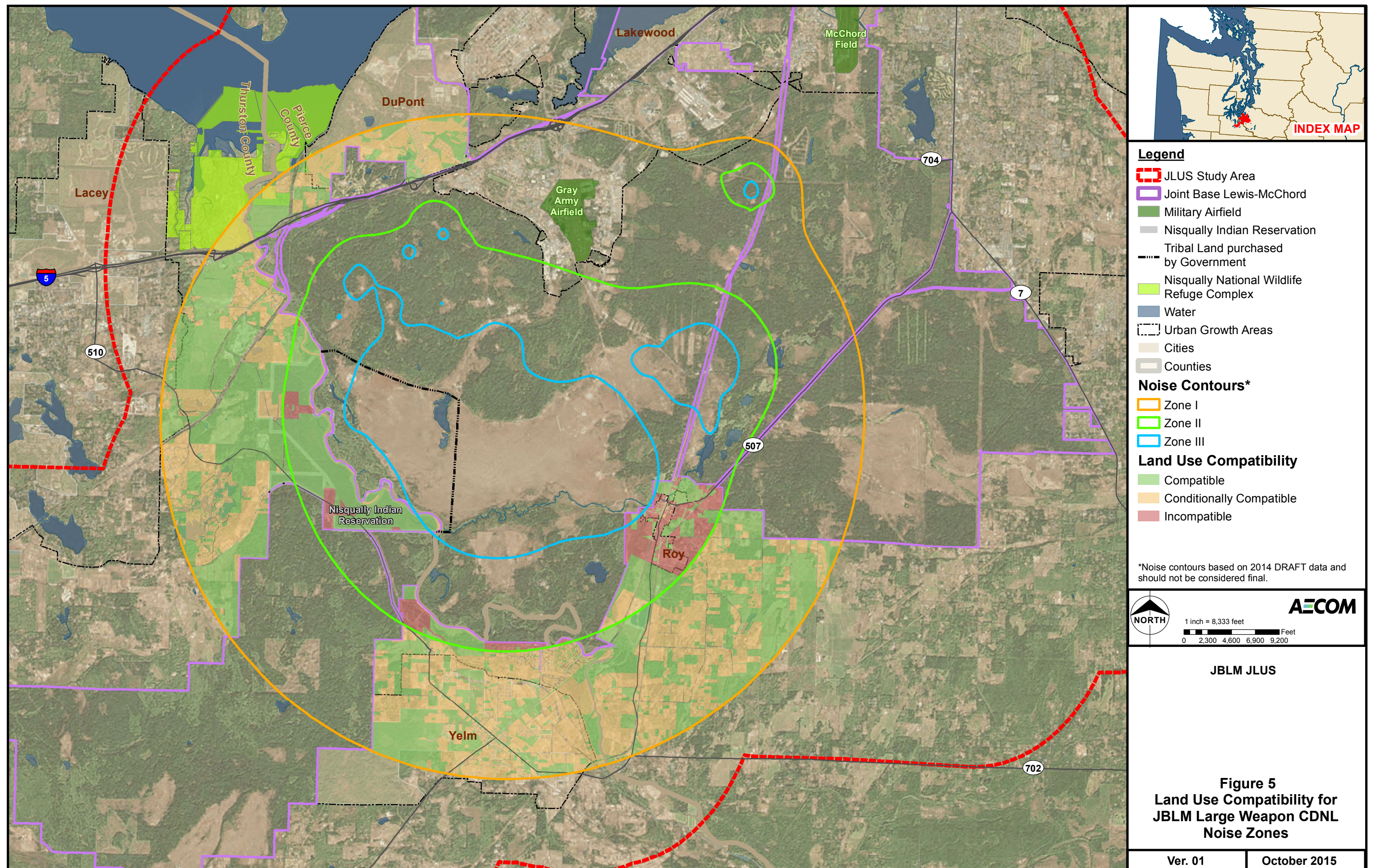




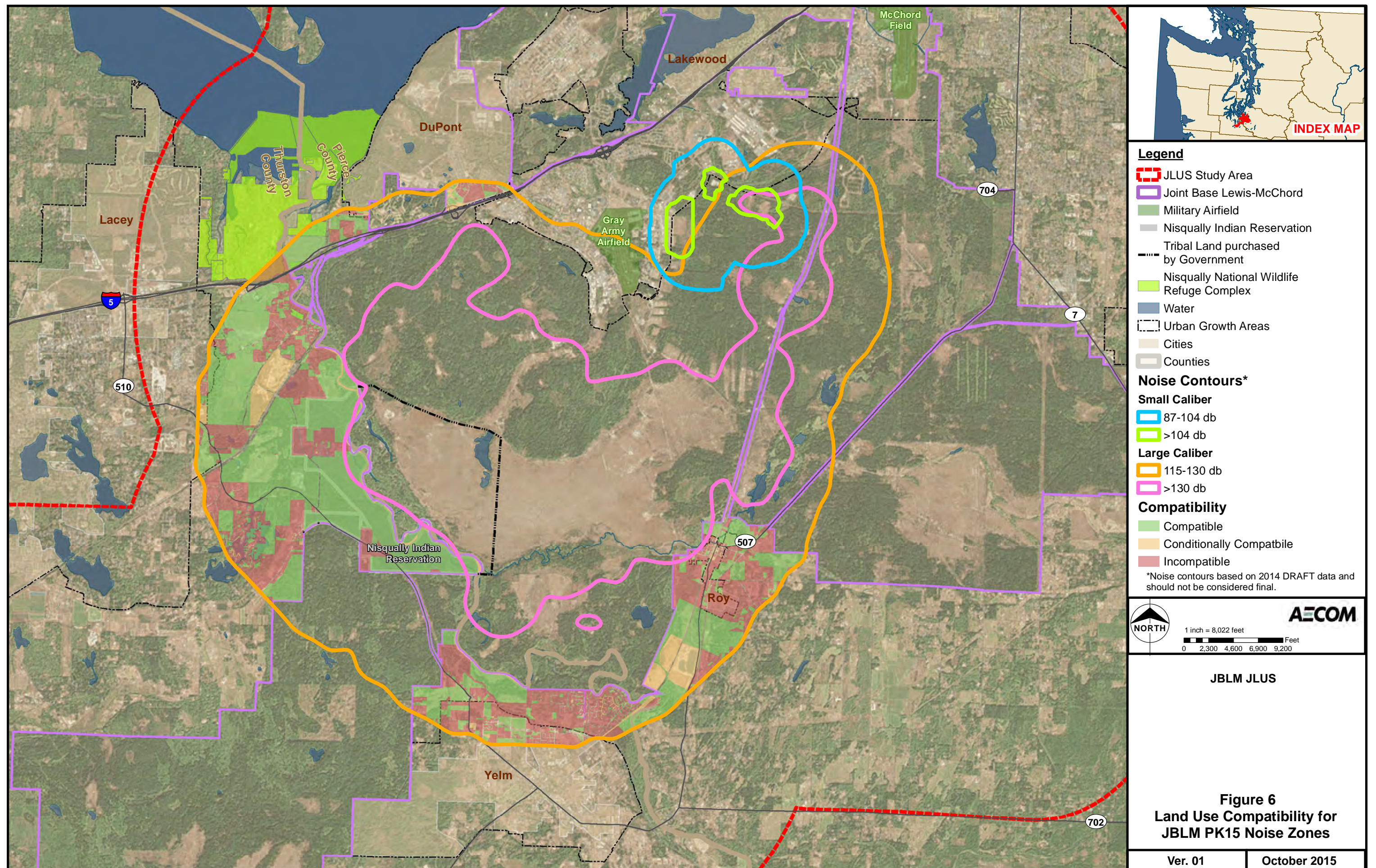




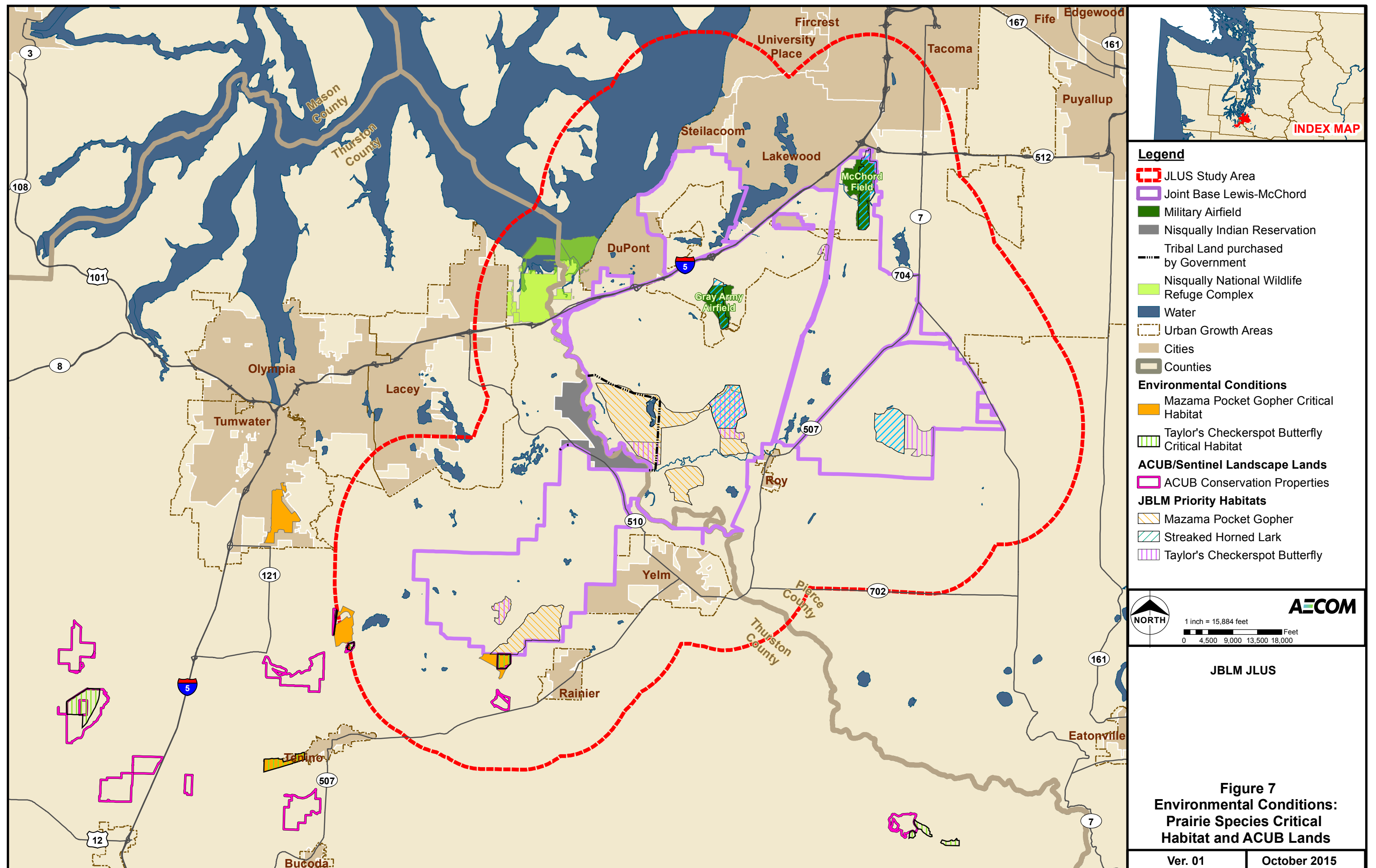












## General Conclusions

Most current land uses around JBLM do not have negative impacts on military capabilities; however, some ongoing and potential new or future areas of concern were identified through the current JLUS process. Continued collaboration is needed between local jurisdictions and JBLM to develop and implement regional solutions to these issues and to support the military's ability to carry out its mission requirements today and in the future. Based on this analysis, several conclusions are drawn and are summarized in Table 3.

**Table 3. Summary of Conclusions.**

<b>Compatibility Issue</b>	<b>Conclusions</b>
Urban Growth	<ul style="list-style-type: none"> <li>• Additional urban growth within the McChord Field North CZ should be prohibited.</li> <li>• Urban growth should be directed away from high noise areas and APZs, where feasible.</li> <li>• Significant growth capacity in the Thurston Highlands Master Planned Community represents potential incompatibility.</li> </ul>
Aircraft Safety	<ul style="list-style-type: none"> <li>• Existing non-conforming incompatible uses in the McChord Field north CZ represent the most critical encroachment issue facing JBLM.</li> <li>• JBLM should seek federal, state, and local funding to resume property acquisition efforts in the McChord north CZ.</li> <li>• In APZ II, medium and high density residential uses in Tacoma and recreational uses in Lakewood are categorized as incompatible.</li> <li>• Jurisdictions should seek to phase out incompatible uses in APZs through zoning, property acquisition, and public facility siting decisions.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Areas in Lakewood and Tacoma near I-5 are zoned for residential, mixed use, and recreational uses categorized as incompatible or conditionally compatible.</li> <li>• Incompatible or conditionally compatible land uses in the JBLM large weapon noise zones include Roy, parts of Yelm and DuPont, the Nisqually Indian Reservation, and parts of the urban growth area in unincorporated Thurston County near Lacey.</li> </ul>
Endangered and Threatened Species and Habitat	<ul style="list-style-type: none"> <li>• Listed species requirements limit the scope of training on JBLM training lands.</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Continuation of current and exploration of new solutions for JBLM-related and other traffic are needed, particularly as it affects local road networks.</li> </ul>
Trespass and Unauthorized Access to JBLM Range and Training Lands	<ul style="list-style-type: none"> <li>• The continuing management of access to training lands will limit trespass and competition for access to military training lands while maintaining legitimate compatible recreational uses.</li> </ul>
Communication and Coordination	<ul style="list-style-type: none"> <li>• Communication and coordination among JLUS partners are critical for the implementation of compatibility recommendations.</li> </ul>



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### 3. Implementation

Based on the review and guidance of the TWG and SSMCP JLUS Subcommittee, a preliminary list of implementation strategies was developed, refined, and prioritized, resulting in an actionable Implementation Plan. The Implementation Plan contains details such as the timing, order of magnitude costs, potential funding sources, lead and partner jurisdictions/agencies/organizations, and supporting background information such as model ordinances.

The Implementation Plan is intended as a series of tools that the local jurisdictions and JBLM can choose to adopt during the implementation phase of the JLUS process. All of the entities participating in the JLUS retain the responsibility of selecting those compatibility tools that best reflect the specific issues, concerns, and needs of each stakeholder.

A variety of strategies could be employed to mitigate the existing or potential land use incompatibilities noted in the preceding analysis. The tables that follow contain a preliminary set of possible strategies that mitigate for existing incompatibility and ensure compatible future development.

Table 4 summarizes the set of implementation strategies and includes action steps and examples; identification of lead and partner organizations, phasing (near-, mid-, and long-term), order of magnitude cost, and any background documents contained in the appendices. The strategies are ordered according to phasing.

The phasing contained in this Implementation Plan is broken down as follows:

- Near:** Less than 1 year from JLUS adoption
- Mid:** 1 to 3 years from JLUS adoption
- Long:** 3 to 5 years or longer from JLUS adoption

For the purposes of this Implementation Plan, the order of magnitude costs are defined as follows:

- \$ -** Generally requires staff time, minor budget impacts, and/or use of existing funding sources.
- \$\$ -** More substantial or new funding required, such as to hire a consultant to complete a study.
- \$\$\$ -** Significant and/or ongoing investment for endowments, property acquisition, or capital projects.

Table 4. Implementation Strategy Summary.

					Affected Jurisdictions															Compatibility Issue							
Strategy #	Strategy	Lead/Partners	Timeframe	Order of Magnitude Cost	JBLM	Nisqually Indian Reservation	State of Washington	WSDOT	PSRC	PCRC	TRPC	Pierce County	Thurston County	DuPont	Lacey	Lakewood	Roy	Steilacoom	Tacoma	Yelm	Aircraft Safety	Military Operational Noise	Communication and Coordination	Threatened and Endangered Species and Habitat	Transportation	Urban Growth	Tresspass and Unauthorized Use of JBLM Training Land
1	Establish an ongoing JLUS implementation entity	Lead : SSMCP Steering Committee	Near	\$	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X				
2	Incorporate compatibility in updates of local Comprehensive Plans	Lead : Nisqually Tribe; Cities and Counties in	Near	\$\$	X	X			X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	Analyze local transportation impacts	Lead : SSMCP	Near	\$	X	X		X	X		X	X	X	X	X	X	X	X	X	X					X		
4	Increase outreach by military partners in the community	Lead : JBLM Partners : SSMCP	Near	\$\$	X																		X				
5	Share information about JBLM and activities among internal and external stakeholders	Lead: SSMCP Partners: JBLM;	Near	\$\$	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X				
6	Enhance system of notification and communication with public stakeholders to prevent unauthorized use and improve communications on authorized uses	Lead : JBLM	Near	\$	X																						X
7	Establish or strengthen notification and planning processes to increase communication between JBLM and neighboring jurisdictions	Lead : SSMCP Partners : JBLM; Nisqually Tribe; Local, County, and Regional	Mid	\$	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X			X	
8	Maximize use of existing financial incentives to encourage preservation of open space and working lands	Lead : Thurston County, Pierce County	Mid	\$			X					X	X											X			

Table 4. Implementation Strategy Summary (continued).

Strategy #	Strategy	Lead/Partners	Timeframe	Order of Magnitude Cost	Affected Jurisdictions															Compatibility Issue						
					JBLM	Nisqually Indian Reservation	State of Washington	WSDOT	PSRC	PCRC	TRPC	Pierce County	Thurston County	DuPont	Lacey	Lakewood	Roy	Steilacoom	Tacoma	Yelm	Aircraft Safety	Military Operational Noise	Communication and Coordination	Threatened and Endangered Species and Habitat	Transportation	Urban Growth
9	Incorporate specific land use compatibility requirements into local zoning codes and ordinances	Lead : Nisqually Tribe; Local, County, and Regional governments	Mid	\$\$		X						X	X	X	X	X	X	X	X	X	X		X		X	
10	Incorporate considerations of aircraft safety and military operational noise into local jurisdiction planning and permitting processes.	Lead : SSMCP Partners : JBLM; Nisqually Tribe; Local, County, and Regional	Mid	\$\$	X	X						X	X	X	X	X	X	X	X	X						
11	Pursue additional conservation partnering opportunities through Readiness and Environmental Protection Initiative (REPI)/Army Compatible Use Buffer (ACUB), and the Sentinel Landscapes partnership	Lead : JBLM Partners: Thurston County	Mid	\$	X								X									X				
12	Expand the federal role in habitat conservation efforts	Lead: JBLM Partners: Thurston	Mid	\$\$	X								X										X			
13	Promote sound attenuation building standards and/or energy efficiency practices in new buildings	Lead : SSMCP Partners : Nisqually Tribe; Local, County, and	Mid	\$		X						X	X	X	X	X	X	X	X		X				X	
14	Support state designations of an area of Regional Military Influence (RMI) or Area of Critical State/Local Concern and Interest	Lead : SSMCP Partners : State of Washington	Mid	\$			X														X					

Table 4. Implementation Strategy Summary (continued).

					Affected Jurisdictions															Compatibility Issue							
Strategy #	Strategy	Lead/Partners	Timeframe	Order of Magnitude Cost	JBLM	Nisqually Indian Reservation	State of Washington	WSDOT	PSRC	PCRC	TRPC	Pierce County	Thurston County	DuPont	Lacey	Lakewood	Roy	Steilacoom	Tacoma	Yelm	Aircraft Safety	Military Operational Noise	Communication and Coordination	Threatened and Endangered Species and Habitat	Transportation	Urban Growth	Trespass and Unauthorized Use of JBLM Training Land
15	Conduct a lighting study to refine the geographic area in which a Military Lighting Overlay District may be applied based on JLUS Implementation entity and stakeholder input	Lead: SSMCP Partners: JBLM; Nisqually Tribe; Local, County, and Regional governments	Mid	\$\$	X	X			X		X	X	X	X	X	X	X	X	X	X						X	
16	Establish a process for coordination among JBLM and neighboring communities to seek ways to provide adequate rental housing for servicemembers.	Lead: SSMCP Partners: JBLM	Mid	\$	X	X			X	X	X	X	X	X	X	X	X	X	X	X						X	
17	Pursue federal or state funding for resolution of encroachment issues	Lead: SSMCP, JBLM Partners: State of Washington, OEA, DoD	Mid	\$\$\$			X														X					X	
18	Real estate tools - disclosures, deed restrictions, hold harmless agreements	Lead: SSMCP Partners: Master Builders Associations	Long	\$					X	X	X										X	X				X	
19	Avoid overflight of noise sensitive areas and residential areas, when feasible	Lead: JBLM	Long	\$	X																X	X				X	
20	Enact or amend state-level legislation to promote land use compatibility around military installations	Lead: SSMCP Partners: State of Washington	Long	\$			X																X			X	
21	Promote analysis of military economic impact in state-wide planning processes	Lead: SSMCP Partners: State of Washington	Long	\$			X																X				
22	Expand conservation banking through Thurston County.	Lead: Thurston County Partners: JBLM	Long	\$\$	X								X											X			